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Original and Selected Papers.

BOROGLYCERIDE.\*

BY THOS. D. McELHENIE.

In a paper read some time ago before the Society of Arts, London, Prof. Barff announced the new antiseptic under the above title, as prepared and tested by him. The paper and the subsequent discussion were confined to the domestic and culinary uses of the substance, in the preservation of all kinds of food products, raw and cooked, and brought out a great many interesting facts. For instance, cream prepared by adding an ounce of boroglyceride to one quart of fresh cream, has been sent from London to Zanzibar, passing through the tropics, and arriving in good condition, also to Jamaica.

It occurred to me on reading the account in the *Scientific American Supplement*, that an article of such valuable antiseptic properties, and withal so harmless in itself, would prove of great value in pharmacy, and probably in medical and surgical practice. Two or three prominent surgeons of this city have it now under investigation as a dressing for wounds. The preparation is not a secret or proprietary article in any sense, the author having given its formula for public benefit.

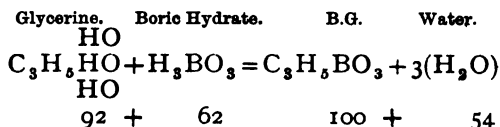
Ninety-two parts of pure glycerin are heated to about 300° F., and 62 parts of boracic acid, which should be powdered to facilitate the reaction, are gradually added. Steam is given off, owing to the water which is formed and set free. The operation, in quantities of five pounds or more, requires about a day to complete,

\* A paper read before the Kings County Pharmaceutical Society, and published in the *Druggists' Circular*.

*Boroglyceride.*

as the viscosity of the melted mass allows the steam to bubble out very slowly. It is known to be finished when it ceases to lose weight and dissolves freely in water at ordinary temperatures.

The ingredients are used in the proportions of their atomic weight. The reaction is as follows:



The water given off amounts to a little over one-third of the whole mixture, or 54 parts in 154, the yield being 100 parts for each 92 parts of glycerine employed. The product is solid, brittle and transparent when cool, has a light amber color, and a shining fracture. These data are true of the preparation as made in a porcelain kettle over a direct flame. The heat of a water bath is not sufficient to effect the combination. It could probably be made on a large scale in jacketed kettles by the use of superheated steam, and in this way would doubtless be lighter in color. It is freely soluble in warm water. It is sparingly soluble in cold alcohol, and in 5 parts at 120°. It is insoluble in ether and chloroform at ordinary temperature. The hot alcoholic solution will probably be found an excellent means of impregnating absorbent cotton with boroglyceride for surgical use.

If boroglyceride is melted, and an equal weight of glycerine added, a dense clear mixture is obtained which remains fluid on cooling, and is a very convenient form for many uses, being 50 per cent. by weight of the antiseptic. This glycerole, as we may term it, will mix clear with an equal measure of alcohol.

The 5 per cent. solution is not affected by tannin, tincture of chloride of iron, Monsel's solution, or the mineral acids. These points may prove useful in treating diphtheria, as an antiseptic spray is often employed. A convenient form for dispensing will be found that of cakes weighing two ounces, moulded in camphor ice-tins, oiled. One or more dissolved in the requisite quantity of hot water will furnish readily a solution of the desired strength. The piece should be wrapped in wax paper and tin foil as soon as cold, to prevent hydration.

As to practical tests of this substance in pharmacy, it is too soon for the gathering of much information on this head. However, I have here a few specimens of readily putrescible substances, tending somewhat to show its power. The contents of two eggs, with two fluid drachms of ten per cent. solution, have kept sweet from May 22nd. The expressed juice of two pounds of fresh chopped beef with fat and pulpy matter, which went through the press, has kept sweet from May 29th, with half an ounce of boroglyceride. This shows the feasibility of preparing a superior nutri-

ment for invalids, and deserves fuller investigation. Mucilage of acacia, U.S.P., substituting the five per cent. solution for water, made June 1st, is quite sweet.

One hundred and twenty grains of French gelatine were dissolved in 16 ounces of water on June 5th, and divided into two portions, one being left unprotected, and to the other one drachm of boroglyceride was added. The latter is quite good, although eight days' old, while the former is becoming quite putrid.

Boroglyceride will keep infusions, decoctions, solutions of the alkaloids, etc., from spoiling. Fruit and fruit juices for use in beverages can probably be kept in this way, without sugar, and made into syrups at any time when desired. It will prove an excellent means for preserving anatomical specimens.

You will see on the table some specimens illustrating the foregoing remarks. Among the most interesting to surgeons are absorbent cotton and crinoline, saturated with a 20 per cent. solution in alcohol.

Since writing the foregoing my attention has been called to the fact as stated in *The Oil and Drug News* of May 23rd, that a patent has been issued at Washington for boroglyceride, under the title of Barff's Preserving Compound. I presume that this is to secure to the inventor the sole right to use it in preparing and transporting beef and other food products on a large scale from North or South America to Great Britain. I do not imagine that the preparation and use of the small quantity required in pharmacy, medicine, and surgery, would be deemed an infringement. I have written to the inventor, and may be able to report on this point at our September meeting.

*Brooklyn, N.Y., June 12, 1882.*

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## PEROXIDE OF HYDROGEN AS A MEANS FOR BLEACHING, AND ITS AVAILABILITY FOR TECHNICAL, MEDICINAL, AND CHIRURGICAL PURPOSES.\*

According to the researches of Schœnbein ozonized oxygen is said to be the active principle in grass bleaching. Later and extremely exact researches by Emil Schœne have, however, proved, in conformity with the opinions of A. Houzeau and Fr. Goppelsrœder, that ozone is not engendered in the air during the process of bleaching, but rather, that all the reactions ascribed to the influence of ozone are due to the action of peroxide of hydrogen. Continued quantitative analyses to ascertain the air's

\* A lecture delivered by Dr. P. Ebell, at a meeting of the Branch Society of German Engineers, at Hanover. From the *Industrie Blatter*. Reprinted from the *Chemical News*.

titre of peroxide of hydrogen led to the perception that it depends in a great measure on external circumstances, such as the time of year and day, the movements of the air, etc., and Schœne is of opinion that the preponderating influence in its production must be ascribed to the light.

Atmospheric precipitations, particularly hoar-frost, originating under certain conditions, contain considerable quantities of peroxide of hydrogen, namely, 0.04 to 1 milligram in 1 litre of liquid.

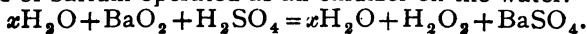
The quantities that came to earth within four months amounted to 62.9 milligrams per square metre.

Although "grass bleaching,"—bleaching with water, light and air,—has been exercised with success for thousands of years, and though there was no lack of time and labour for the perfection of the process, yet there cannot be any misconception as to the fact that it is attended with considerable inconveniences. The result of grass bleaching can never be predicted with absolute certainty, especially within a fixed time. The usual way of bleaching mostly requires a great deal of time, and is attended, besides other drawbacks, with great loss of interest.

It will be sufficient to point to the extremely interesting operation of wax bleaching. There is lying at the wax bleachfields near Celle, material to the value of hundreds of thousands of marks, waiting for sunshine and wind. The consideration of these drawbacks will suffice to demonstrate how necessary it is to produce the bleaching medium of nature, the peroxide of hydrogen, in a concentrated form.

Chemistry has at its disposal a long series of combinations which contain oxygen only loosely bound, and which transfer it by their own decomposition to other bodies. These media of oxidation offer a base for the compensation of the oxygen of the air in bleaching, and the following are being technically used; nitric acid, nitrous acid, permanganic acid, chloric acid, chromic acid, and lastly the chloric gas in combination with bases, in the shape of bleaching salts. However manifold these bleaching media may be, the use of all of them is attended with inconvenience, as they more or less injuriously affect the fibre to be bleached, and for this reason their application is limited and difficult. It is the peroxide of hydrogen alone which does not act in that way; it contains the effective agent operating in grass bleaching in a concentrated form, and is therefore superior to all other bleaching media, and in so far must be marked as the bleaching media of the future.

The peroxide of hydrogen was discovered in 1818 by Thenard, who obtained it by the action of acids on peroxide of barium in the presence of water. Thenard showed that the oxygen of the peroxide of barium operated as an oxidizer on the water.





A great number of chemists afterwards occupied themselves with the peroxide of hydrogen; Pelouze, Duprey, Balard, J. Thomson, E. Schöene. All found the above way for its production the most preferable.

The resulting solutions are always of a titre of only 5 per cent peroxide of hydrogen. The separation of the pure product  $\text{H}_2\text{O}_2$ , is proportionately difficult, on account of its great tendency to decompose. There are two ways of effecting concentration:—(1) Freezing out; (2) Evaporation in a vacuum over sulphuric acid at a temperature of  $15^\circ$  to  $20^\circ\text{C}$ . ( $59^\circ$  to  $68^\circ\text{F}$ .)

The pure peroxide of hydrogen is a syrupy liquid of 1.453 sp. gr., which yields a 475-fold volume of oxygen in its decomposition. Dilute solutions equal solution of chlorine in their effect, and will keep for months in a temperature not exceeding  $25^\circ\text{C}$ . ( $77^\circ\text{F}$ .) if protected from the influence of light. A trifling addition of acid has the effect of diminishing very considerably the tendency to decompose. On the other hand, alkalies and salts producing basic reaction hasten its decomposition.

This tendency of the peroxide of hydrogen to lose its oxygen places it amongst the media of oxidation. It is not in every case that the real reasons are known for the peroxide of hydrogen quickly surrendering its oxygen. There is a series of bodies which accelerate the evolution of oxygen, without themselves apparently undergoing a change. For instance, all pointed, angular, sharp objects, precipitates, such as alumina and hydrated peroxide of iron, charcoal, as well as several metals when very finely grained, as silver, gold, platina.

In a second series of cases the peroxide of hydrogen acts in the same way as any other medium of oxidation in yielding its oxygen to another body. In course of this process arsenious acid is oxidized to arsenic acid, sulphides are converted into sulphates.

Thirdly, peroxide of hydrogen can apparently exercise a reducing action, losing a portion of its oxygen in decomposing other oxidized bodies. In this manner it reduces the peroxides of lead and of manganese to oxide and protoxide.

In general it may be said, that the peroxide of hydrogen has a deoxidizing action on acids which have an inclination to yield their oxygen (permanganic acid), and an oxidizing action on oxides in alkaline solution which have the opposite tendency.

#### *Application of the Peroxide of Hydrogen for Technical Purposes.*

Almost every one who has treated of the subject of peroxide of hydrogen has predicted for it great future importance; the characteristic reactions almost obtrude themselves upon one's observation.

Dumas ('Handbook of Practical Chemistry,' Nurnberg, 1830, vol. i., page 119) had used it for cleaning discoloured oil paintings

and valuable drawings. Starting, as he did, from the consideration that the fading of the paintings arose from the discoloration of the lights put on with white-lead through the formation of sulphide of lead, and having regard to the regeneration of the latter by the influence of peroxide of hydrogen into white sulphate of lead, success could not but follow the trials. In spite of this, however, the peroxide was not made use of for a long time; it was only in 1870 that an intelligent perfumer employed it, making it an article of commerce in shape of a 3 per cent watery solution, as a means for bleaching the hair, and under various names as:—"Eau de fontaine de Jouvence, golden," "Golden hair water," "Auricome." About the same period prominent men drew attention to the faculty of reaction possessed by the peroxide of hydrogen as a recommendation for its use in medicine, as A. v. Schrötter, R. Böttger (*Annals of Chemistry*, 1873, p. 365), then Geiger ('Handbook of Pharmacy,' i., p. 213, 4th edit.) Hager also gives methods for its production in his 'Pharmaceutical Practice.'

If in spite of all this peroxide of hydrogen played only a subordinate part, especially in medicine, the reasons are to be found on the one hand in the slighting treatment which was accorded to it by practical chemistry; on the other in its own most valuable and specific peculiarities, which in certain directions were antagonistic, and which to superficial observation seem still inimical to its being taken into general use.

In the first place the production of the peroxide of hydrogen, so far as regards quantities and purity of the article, was until lately an unsolved problem.

What practical chemistry could offer were only solutions charged with impurities in the shape of various salts and acids, and of the most uncertain and varying composition. For this reason alone, uniform thorough success in any direction could not be attained. But besides that, the price could not be but enormous in consequence of the disability to fully exhaust the materials used in its manufacture and an entire want of demand for the article. These drawbacks are now overcome, and peroxide of hydrogen can be had in watery solution with a titre of 3 per cent by weight, or of 10 volumes, in a uniform, chemically pure state at low prices and in large quantities.

The doubts with regard to durability and to transport to distant parts may be considered as solved.

The watery solution corresponds in its conditions to solution of chlorine; when light is excluded, and temperature does not exceed 25° C. (77° F.), it loses only a trifling amount of its entire titre of peroxide of hydrogen, and therefore the "peroxide of hydrogen question" must be considered answered with regard to its first part, comprising its chemical production and its capacity of undergoing unharmed the difficulties of transport.

*Peroxide of Hydrogen as Bleaching Material for Products of Animal Origin.*

All products which are to be subjected to a bleaching process by peroxide of hydrogen must be submitted to a preparatory treatment, the purpose of which is to render them capable in every part of being moistened by a watery solution of the peroxide of hydrogen. Every particle of fat, sweat, and impurity adhering to the objects to be bleached must be taken away.

Besides bathing in a solution of good soap, solutions of 3 to 5 per cent of carbonate of ammonia have in the first place shown themselves of value; in various cases new means of solution, such as sulphide of carbon, benzene, ether, etc., have been found available.

With regard to the process of bleaching itself, two different principles can be brought into operation.

The watery solution of 10 volume peroxide of hydrogen is neutralized as far as possible by some drops of liquid ammonia and used directly as a bleaching bath.

For a continued process of bleaching it is advisable to use a series of baths, through all of which the object to be bleached passes systematically, commencing with the weakest. Light must be excluded, and temperature not be allowed to exceed 25° C. (77° F.)

The second method is based on the same principle, but carried out in a different way.

The objects preliminarily prepared as above stated are steeped in the solution of peroxide of hydrogen. After being fully impregnated with the liquor, they are taken out and subjected to a process of drying in a current of air, which must not exceed a temperature of 20° C. (68° F.)

The process of bleaching progresses energetically during the evaporation of the water, and the concentration of the solution of peroxide of hydrogen occasioned thereby.

It is a matter of calculation, or depends upon other circumstances, whether the one or the other proceeding is to be carried through.

*Bleaching of Hair with 3 per cent. Solution of Peroxide of Hydrogen.*

The hair is digested for twelve hours in a solution of 3 parts carbonate of ammonia in 1000 parts of water at a temperature of 30° C. (86° F.), rinsed, when washed with soap, and all the fatty matter removed with the help of a fresh solution of carbonate of ammonia. Benzene can also be recommended. Prepared in this way, it is immersed in a bath of peroxide of hydrogen, fully neutralized with liquid ammonia.

It either remains in the bath until sufficiently bleached, or is dried in a room at ordinary temperature and the immersion repeated.

The baths must only be considered fully exhausted when some drops of permanganate of potash produce in the liquor a permanent red coloration.

It has not been found feasible to bleach black hair so that it becomes perfectly white, its colour only disappearing so far as to arrive at a light golden fair hue. Even a jet black Chinese tail does not resist.

The bleaching of hair even on living persons does not present any difficulties. After the desired degree of bleaching has been arrived at, an after-treatment by washing with water, followed by a wash with alcohol, takes place; hot liquids or drying in drying chambers are excluded.

*Bleaching of Feathers, especially Ostrich Feathers.*

As a means of bleaching feathers, the peroxide of hydrogen is far superior to all other substances proposed for the same purpose, and has proved itself of value in every way, especially for ostrich feathers.

Its superiority rests especially on the oxidation and thorough removal of colouring matter, without the slightest detriment to the structure of the feather itself.

By way of preparation the feathers are placed into a bath of carbonate of ammonium containing 1 to 2 parts of salt in 100 parts of water, where they are left for twelve hours at a temperature of 20° C. (68° F.), being gently moved about in the bath the while.

After this they are being steeped and moved about in a lukewarm bath of Marseilles soap, and at last well rinsed with water exempt from lime. Boiling or hot liquids must be excluded.

Treatment with pure benzene and ether has also shown very good results.

For feathers it is only admissible to bleach in baths, which must be made neutral, and not be prepared and kept in metal or wood vessels. Earthenware, or stoneware vessels are the best adapted for the purpose.

In cases where the feathers are for a long time exposed to the influence of slightly acidulated liquid, there occur, as with all other organic matter, appearance of wasting away in the liquid; they begin to show signs of decay, and lose their beauty to a great degree.

The bleaching finished, the feathers are slowly dried in a low temperature and in moving air, while being repeatedly beaten. At higher temperature the formation of gluey matter easily takes place, in consequence of which the finest fibrils stick together; beating acts as preventive to that drawback.

It was formerly proposed to dust the feathers while still in a damp state with hair powder, and then only to dry them. The powder acts on the feathers in a similar way as do tanning materials in tanning; like these it prevents the tendency to flaw.



Very favourable results may be attained by steeping the bleached and still wet feathers in alcohol; this makes the gluey insoluble formations settle down, and the liquid evaporating at very low temperature, it leaves the feathers of a woolly and beautiful appearance. By steeping the feathers in benzene, and allowing it to evaporate, the same end is gained with even better results.

The further treatment of the feathers, as scraping, trimming, and curling, can only be mentioned here in passing.

The success of the bleaching of feathers in the above manner is thorough in comparison with other proceedings. Even entirely black spots are bleached after continued action of the bath.

#### *Bleaching of Silk with Peroxide of Hydrogen.*

For bleaching silk a whole series of strong oxidizers, as permanganic acid, chromic acid, nitric acid, have been proposed, and besides them sulphurous acid has been used to advantage. As is the case with beeswax, the colouring matters of raw silk are capable of resisting bleaching materials in different degrees; some sorts of silk are easily susceptible to their influence, while others resist it strongly.

Amongst the latter is the product of the wild silkworm, the so-called Tusah silk, a fine and durable thread of strongly pronounced brown colour.

According to our trials, peroxide of hydrogen is the best means of bleaching this silk, the objectionable brown colour being reduced by its action to a but little distinguishable, pleasing yellow. After the boiling of the gum by subjecting the raw silk to a treatment with soap baths of various strengths, and final boiling in concentrated solutions of soap, it is recommended to treat it with carbonate of ammonia.

After that the scoured silk must be subjected to the action of peroxide of hydrogen, in the same way as mentioned under the heading of "bleaching of hair."

Alcohol, eventually mixed with a little glycerin, has in this case also shown itself of value for an after-treatment.

#### *Bleaching of Ivory and Bone.*

Records as to the bleaching of bony substances and ivory are very scarce.

Almost universally the process of bleaching in sunlight by means of air and water, which is very trying to the bone, is had recourse to; for ivory chloride of lime has been proposed.

The purpose of the preparation of the bone is, as in the case of all the other substances heretofore mentioned, the removal of fatty matter. While formerly they were treated with steam under pressure, and the fat skimmed off, there have lately been patents taken out for using solvents, such as sulphide of carbon, ether, benzene, and it is said that their use offers advantages as compared

with the former way of proceeding, not only with regard to quality and quantity of fatty matter, but also in consequence of the loss of gelatinous substances being only trifling.

Lyes of carbonates of alkalis must be more or less excluded for the above purpose, but weak solutions of carbonate of ammonia may be used.

The bones freed from fatty matter are immersed—preferably while in a primary state of manufacture—in an almost neutral solution of peroxide of hydrogen, and left in this bath as long as may be requisite. The process of bleaching takes place smoothly and safely; even spots of blood in the pores acquire a perfectly white appearance.

Ivory is treated in exactly the same way as bones; fans, handles of walking sticks, and knife handles, bleached by peroxide of hydrogen are already being used very extensively.

*Application of Peroxide of Hydrogen for Medicinal Purposes.*

The peroxide of hydrogen has not hitherto played a conspicuous part in therapeutics. The reason for that may be, that formerly pure and durable solutions were not to be had at a reasonable figure. Price, however, is no longer an impediment to its use, and the tendency of the peroxide of hydrogen as at present obtainable to decompose can be considerably restricted; possibly peroxide of hydrogen turned into simple water may formerly have led to wrong conclusions. Peroxide of hydrogen if preserved in the dark, and in a temperature not exceeding  $25^{\circ}\text{C}$ . ( $77^{\circ}\text{F}$ .), keeps unaltered for months. For ascertaining its titre of active oxygen a normal solution of permanganate of potash is requisite; it would be advisable to fix a minimum titre of active oxygen. It is to be supposed that peroxide of hydrogen, like chloride, bromide, and permanganate of potash, is poison to the smallest organisms (bacteria); exact comparative experiments with a view to ascertain this are much to be desired, considering the importance of the matter. Experiments with yeast instituted by the lecturer had very favourable results, and proved that the germs of the yeast are entirely killed by peroxide of hydrogen, even when greatly diluted.

As regards the fitness of peroxide of hydrogen for treating wounds, caused by syphilitic, scrofulous, and tuberculous ulcers, favourable experience has been gleaned by a physician at Hanover. It is probable that peroxide of hydrogen will do good service in the shape of spray in making operations and ligatures; this would be important, considering the effect which carbolic acid spray often has on operators and patients.

The great advantages possessed by peroxide of hydrogen, as compared with other media of disinfection are:—

- (1) Complete absence of smell.
- (2) Yielding oxygen without leaving any other residuum but pure water.

(3) Absence of injurious influence on the organism.

The workmen occupied in making the peroxide of hydrogen get exceedingly delicate hands, and wounds heal visibly under its influence.

There further seems room for employing the peroxide of hydrogen as a means of disinfecting sick chambers and generally for purifying the air. It would be advisable to spread by means of a rafraichisseur spray of diluted peroxide of hydrogen by way of trial.

Attention must also be drawn to the use of peroxide of hydrogen in dentistry, as has in the first place been done by C. Sauer (*Quarterly Review of Dentistry*, 1879, No. iv.) Sauer made use of the peroxide of hydrogen with success in bleaching discoloured and carious teeth. In cases where the teeth are covered with coloured matter (*Lichen dentalis*, etc.) he employs peroxide of hydrogen in conjunction with finely levigated pumice-stone as a means of cleaning, in place of water. Teeth, the native channels of which were filled with coloured matter, became somewhat paler after several applications. A suitable liquid for cleaning teeth and mouth is prepared by mixing 1 part of 3 per cent. peroxide of hydrogen with 10 parts of water. In case of carious teeth the peroxide of hydrogen on wadding was locally used with advantage.

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## THE ESTIMATION OF SMALL TRACES OF GOLD.\*

BY NELSON H. DARTON.

It is of considerable interest to geologists, as well as prospectors, to note the rocks containing mere traces of gold; and as they are very abundant, even in this State, we often meet with them. There is a porous gneiss at Inwood, New York city, containing appreciable amounts of gold, sintered down from elevations in the north as placer deposits of very weak intensity, which becomes fixed in the rock. This origin is clearly shown, as there was a very gentle slope through the State, and the amount of gold, probably limited to commence with, was thus widely disseminated over this incline, and there fixed by deposits above it, and came into intimate contact with the rock by infiltrating waters taking it into solution and depositing it through the mass. Fissures and basins occurring in several of the counties in northern Central New York, intercepted and concentrated parts in its downward movement of the richer portion of ore, and thus gave in places the rich indications and yields. But to return to the subject.

There have been a number of methods proposed to detect the

\*Scientific American.

minute quantities of gold occurring in the rocks mentioned above, and in ore tailings, etc., and having examined and tested every method I have known to have been suggested, I have come to the conclusion that the one noticed below yields by far the most satisfactory results if the details are well carried out, and is the most practicable in the field or in the laboratory. I know of no compound which would be formed from natural products by the method which would mislead by staining the ash a color at all similar to the distinctive purple of finely divided gold.

Small parts are chipped from all the sides of a mass of rock, amounting in all to about a quarter of an ounce. This is finely powdered in a steel mortar, and well mixed. About half of it is placed in a capacious test tube, and then partly filled with a solution made by dissolving twenty grains of iodine and thirty grains of iodide of potassium in about an ounce and a half of water. The mixture thus formed is thoroughly agitated by shaking and warming, and then, after all the particles have subsided, dip a piece of pure white filter paper in it, allow it to remain for a moment, then let it drain, and dry it over the spirit lamp. It is then placed upon a piece of platina foil held in a pincers, and this heated to redness over the flame; the paper is speedily consumed; and after heating further to burn of all carbon, it is allowed to cool, and then examined. If at all purple, gold is present in the ore, and the relative amount approximately deduced, as much, fair, little, or none. This method takes but little time and is very trustworthy.

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## HYDROSTATIC PRESSURE AS APPLIED TO PHARMACEUTICAL PURPOSES.\*

BY H. A. ESTABROOK.

The application of this principle to the practical workings in the laboratory of the pharmacists is of comparatively recent date amongst us, and to *whomever* belongs the honor of first making use of it in this connection, the honor of first bringing it, in a general way, before the public attention, certainly belongs to Messrs. Rosenwasser & Co.; and, giving them *all* the credit they may claim, we will, for the time being, drop the name "Rosenwasser Percolator," and use instead the phrase "new method."

The interest manifested in all new methods of percolation, and the eagerness with which new ideas on the subject are sought after, are proof conclusive that manipulations, in this branch of our profession, have not proved in the past altogether satisfactory, and I

\* Read at the recent meeting of the Massachusetts State Pharmaceutical Association and published in *New Remedies*.



apprehend that this arises from two causes : first, from the difficulty of finding in the market drugs of the proper degree of fineness, and at the same time of a uniform powder calculated to produce the best results ; and second, from a lack of good judgment in manipulation, which is oftentimes sheer carelessness.

While the new method does not in any sense overcome the *necessity* of the utmost vigilance and care in selecting and manipulating drugs, it *does*, in a measure, insure satisfactory results against these, the most common contingencies ; and the ones, I think, which promulgate the growing evil among druggists, of buying already prepared, even the most *common* preparations which they dispense, when, by so doing, we dodge a responsibility which we owe to our clerks, of giving them an opportunity to acquire a thorough and practical knowledge of the business, which nothing but experience can give. Therefore, I put in this plea for *our boys*, who, for a trifling pecuniary compensation, are spending years with us, in order that they may get such a practical knowledge of the business as shall enable them to compete successfully with life's heavy tides.

But to come more directly to my subject, I do not know that I can better illustrate the advantages of the new method than by following through the workings of one pound of fluid extract, comparing it somewhat with the workings by the old method of the Pharmacopœia, making suggestions and comments according to my experience.

I have brought here for the inspection of any who may desire, what will be, when added together, one pound of fluid extract of valerian ; this is in five bottles, each one marked indicating just the part of the percolate which it represents when it passed from the percolator. I have here also one of the small Rosenwasser percolators, so that we may follow through the work more satisfactory.

In preparing the drug for the percolator, I first measured out 18 fluid ounces of alcohol, which was the whole amount used in making the 16 fluid ounces of fluid extract, *then*, instead of following the directions of the Pharmacopœia to "moisten the drug *thoroughly*," my experience leads me to moisten the drug *slightly*. In this case I used  $3\frac{1}{2}$  fluid ounces of the menstruum, instead of 6 fluid ounces as directed in the Pharmacopœia. Then, after packing the drug very tightly in the percolator, I turned on the remainder of the menstruum from a reservoir four feet above the percolator, and in one hour the percolate appeared, when immediately shutting off the flow from the reservoir, by means of a clamp devised for this purpose, and drawing into a graduate the menstruum remaining in the reservoir and tube I found I had six fluid ounces ; therefore you will see that 16 troy ounces of valerian absorbed 12 fluid ounces of menstruum (whereas the same

amount of drug worked by the old method absorbed 17 fluid ounces of menstruum before any percolate appeared).

Then turning the remaining 6 fluid ounces of menstruum back into the reservoir, I let the percolation go on as rapidly as it would, and when the menstruum had got down to the mouth of the percolator, I filled the reservoir with water to displace the menstruum absorbed and held by the drug, with the result which the extract I have here illustrates.

This demonstrates, I think, that the soluble matter in one pound of drug under the most favorable circumstances can be displaced by the the new method with a little more than one pound of menstruum, the small allowance being made for the assimilation of the water with the menstruum in the process of displacement. I have spoken of the more favorable drugs under the most favorable circumstances. Such drugs as senna and rhubarb in my hands have required more menstruum to exhaust, but in no case, thus far, have I exceeded 26 fluid ounces to the pound. With this class of drugs, I have found a higher pressure—through 8 feet of tubing instead of four feet—to work more satisfactorily. This fluid extract of valerian, you will see, cost me at the extreme sixty-five cents, while the cost of a pound from any of the reliable manufacturers, is to the retailer, about ninety-five cents; hence I find that, on an average, the apothecary can save from 25 to 30% by making his own fluid extracts which, I am sure, is worthy of attention in these days of sharp competition.

The principles involved in the new method are, that the drug, after being tightly packed, is kept within this prescribed limit, and as it expands it must expand within and upon itself until it becomes as easy for the menstruum to dissolve out the soluble matter and to pass down through the pores which this occupies, as to pass between the particles of powdered drug. Thus by the application of hydrostatic pressure, the operator has within his hands facilities for forcing the menstruum through what may seem almost a solid mass.

But another and very practical use to which I have applied this principle is to rapid filtration, for which it by far excels all other methods I have ever tried; for filtering large quantities of elixirs and such things as filter slowly. I have packed into the percolator two or three inches in thickness of well-washed beach-sand, in the same manner as I would pack a drug. This makes a body on which to work the filter paper, which I place at both the top and bottom of the sand, *then*, by putting the liquid to be filtered into the reservoir, varying the height of the reservoir from the filter to suit the emergency, you have things all your own way.

In making syrups, I am not satisfied that this principle can be applied with any commensurate advantage.

So much for the *principle* of hydrostatic pressure as applied to pharmaceutical purposes. With regard to the machines offered for sale by Messrs. Rosenwasser & Co., there is not much that can be said in their favor. In short, I am surprised that any firm will put such shabbily constructed machines upon the market, when with a very little more expense and a trifling advance in price, if need be, they might give the trade something of real practical value for their money.

The price at the present time for their useless one-pound percolator is, I believe, three dollars. They have advanced the price since their advertisement in December last. Now for the sum of three dollars any druggist can have a single percolator made, constructed on the same principle, out of eighteen-ounce, sheet, nickel-plated copper, with diaphragm and rod complete, and nickel-plated. The cost for larger sizes is simply the cost of the material, but a more economical way, and one that has been suggested by Mr. Bartlett, is to take a five-pint bottle, cut off the bottom, and by the use of camphor and turpentine bore two holes on opposite sides of the bottle through which you can pass a stick for the support of the rod and diaphragm.

Ingenuity may devise many methods by which this principle can be applied to laboratory work, and I am sure that a fair trial will demonstrate its usefulness.

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## Editorial.

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### COUNTER PRESCRIBING.

The case of counter prescribing at Ottawa has elicited a great deal of discussion from the press, and is regarded with considerable interest by the public. Probably most of our readers will have already seen the details, but as others may not have done so, and also to put the particulars on record for reference, we briefly record the principal facts:

Mr. George Mortimer, the defendant, is an old and respected druggist, doing business on York street, Ottawa, in which city he has resided for the past twenty-six years. He holds certificates from the Ontario and Quebec Colleges, and some thirty five years ago learned his business in Aberdeen, Scotland. On the first of July last, a young man named Thomas Mulrooney called at Mr. Mortimer's shop and

presented a prescription from Dr. Cranston, of Arnprior, but, instead of dispensing it, Mr. Mortimer informed the patient that he could give him something better, and on the strength of this statement sold him a preparation of his own. For this he was summoned to appear before the Police Magistrate, on a charge of giving medical advice without being a licentiate of any medical college. Mr. Mortimer in defence, said that what he sold was a specialty; that he had given the advice entirely gratis, as, he claimed, anyone had a right to do; and that he had done the same thing for thirty-five years past, and that he only did what every druggist in the Dominion was in the habit of doing. The magistrate decided that the law had been broken, and imposed the lowest fine allowable—\$20 and \$2.00 costs. Mr. Mortimer gave notice of appeal, but, on further consideration, has given up the idea, but in conversation with a *Globe* reporter he expressed the opinion "that the druggists of Ontario should combine together for the purpose of getting the law modified, it being certain that, with proper representation, this could be done."

So far the case is without complication and it is an easy matter to form an opinion as to its merits. Although we are the mouthpiece of the druggists of Ontario, and are sorry to say a word adverse to the interests of any member of the college, in this particular instance we must confess that we believe the magistrates decision was alike in accordance with law, justice, and common sense. Mr. Mortimer decidedly overstepped his position as druggist, and had no right whatever to substitute any preparation for that named in the prescription, no matter what his opinion of the merits of the medicine might have been. When, as a tradesman, he sold a preparation of his own, it may be presumed that he disposed of the goods that yielded him the most profit, and this renders the case even stronger against him. We feel sure that we express the feelings of the drug trade in condemning this unwarrantable interference, and in commending the verdict.

In the reports of the trial Mr. Mortimer is made to say "that he only did what every druggist is in the habit of doing." This statement if correctly reported will not go unchallenged. We believe every druggist in the province will at once repudiate it, as many have already done in our hearing. There never was a time when the relations of doctor and druggist have been more harmonious than at present. Each is disposed, as far as practicable, to mind his own business, and this is the only true basis for good feeling, mutual respect and a steady advancement of the interests of both classes.

Under the sensational caption of "Are we a Free People" the *Toronto Globe* takes up this case, and with mistaken zeal assumes the position of a champion of the rights of the public to free trade in medicine. Much as we esteem our contemporary for its hard-hearted sense, we cannot be led to believe that, for the sick, either rich or poor, a druggist is as good as a doctor, nor that the physicians right to practice—always purchased by the expenditure of years of study, and a considerable outlay of money—is to be altogether ignored. Nor do the public or press generally hold such a view. In reference to this the *Telegram* very sensibly remarks :

"The *Globe's* idea is free trade in medicine. But it is evident that free trade in medicine would fill a good many graves. Besides, it would be very unfair to the medical fraternity if the druggists were enabled to traffic in prescriptions sent to them to be made up. They would be making money out of the property and brains of other people, and we feel sure they have no desire to do that."

There is, and probably always will be, a certain amount of counter-prescribing done by the druggist, especially in certain sections of cities and in country towns. Poor people cannot afford to run to the doctor with every cut finger or trifling ailment they may suffer from, and physicians are well aware that it would be unwise and unjust to attempt to require them to do so. In the Shepperly test case, argued at great length in England, and reported in this journal, Baron Pollock strongly held to this opinion, and gave his decision accordingly. The case at Ottawa was, however, widely different, and well deserved the condemnation that it has almost universally received.

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### THE EXAMINATIONS.

The semi-annual examinations were held on July 25th and three succeeding days, with a smaller attendance than there has been for several years. Only thirty-four candidates were examined, against forty-one for the corresponding term last year, and thirty-eight the year previous. This diminution is principally to be accounted for by the fact of the College having been established somewhat hastily, sufficient time not being allowed for intending students to make their arrangements. No doubt there will be an extra number at the next examination, which in all probability will be held during the last week of January. We have delayed the issue of this number in order to give

the result of the examinations—a full report will appear in next number. The names of the successful candidates are as follows :

Webber, Ottawa ; Robinson, Yorkville ; Toms, Whitby ; Yapp, Brantford ; Benson, Toronto ; Hall, Chatham ; Eby, Port Elgin ; Suttie, Orangeville ; Higinbotham, Bowmanville ; Boothe, Toronto ; Browett, Ingersoll ; McLean, Barrie ; Patterson, Toronto ; Taylor, Harriston ; Allen, Adolphustown ; Casselman, Morrisburg ; Duncan, Seaforth ; Erbe, Toronto ; Campbell, Hamilton ; Bridgland, Bracebridge ; Sutherland, Belleville ; Crawford, Moorefield.

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### THE COLLEGE.

The autumn term will commence on Tuesday, Oct. 10th and continue until January 26th, with a short vacation for the Christmas holidays. Elementary Chemistry, and Practical and Pharmaceutical Chemistry will, this term be dissociated, the latter two branches being taken by Mr. Shuttleworth.

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## Editorial Summary.

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THE last addition recommended for disguising the color of iodoform is oil of myrbane.

THE Messrs. Gehe think that lactic acid will become much cheaper, during the next few years, if the process of preparing it from grape sugar by the action of concentrated alkalies turns out to be a success.

THE homœopathic principle has been found applicable in the case of sulphide of calcium. In moderate doses it acts very beneficially in acne, furuncle, etc., but in large doses, and with particular constitutional conditions, it will aggravate and produce these affections.

A WRITER in the *Medical and Surgical Reporter* says that while the salts of pilocarpia are utterly useless to start on a bald head a

rich growth of hair, almost every other form of alopecia, if caused by illness, is favorably influenced by the internal administration of minute doses of the alkaloid.

A CONTINENTAL test, devised by M. Chiappe, for detecting mineral acids in vinegar, is that by methylanilin violet. In solution of 1 to 100, mineral acids change the color to blue, but organic acids do not affect the color. If this test is reliable and delicate it promises to be very useful.

We quite agree with our contemporary and look forward hopefully to the time when a preliminary examination will be compulsory, and when dispensing assistants must possess certificates of competency. Until then the public must be content to sacrifice one of their number occasionally.

ACCORDING to M. Yuon, rosolic acid, the coloring matter frequently met with in carbolic acid, may be easily separated by mixing the carbolic acid with an equal weight of glycerine, and adding the solution to water. In time a colored layer rises to the surface which contains most of the rosolic acid present.

FROM experiments made by Dr. J. C. Martin, in Jefferson Medical College, the conclusion is arrived at that cotton root bark does not possess the property hitherto ascribed to it of initiating or promoting uterine action. The experiments were made on rabbits, which, as is generally known, conceive and abort very readily.

IN the *Pharm. Zeit. fur Russ.*,—the Russian pharmaceutical journal published at Dorpat—the curious statement is made that nearly all the rhubarb used in Russia is obtained through the English drug market. We are aware that Russian rhubarb is not really grown in that country but still this looks like carrying coals to Newcastle.

THE *Pharmacist & Chemist* says that a plant of *Ricinus Sanguineus*, the red foliated variety of the castor oil plant, is an effective muscifuge. It is recommended that druggists place one of these very ornamental objects in the shop window, and it is claimed that the effect is equal to that of insect powder. The pecuniary result would not, however, be perhaps so satisfactory.

ACCORDING to Mr. C. C. Clump, who read a paper on the subject at the annual meeting of the Pennsylvania Pharmaceutical Society, resin of podophyllum, prepared by the U. S. P. process, is soluble in ether, (strength not stated), save one per cent. which is partly soluble in alcohol. Podophyllin prepared by the alum process leaves a residue of twenty per cent. unsoluble in ether. This undissolved portion was without action as a purgative in doses of two grains.

MR. A. B. PARSONS obtained from corn ergot, (*Ustilago Maidis*) 5.5 per cent. of an albuminous substance resembling the schlerotic acid of rye ergot; 4.2 per cent. of fixed oil; 12.87 per cent. of a substance isomeric with starch; oxalic acid, and a small quantity of volatile matter, neither a salt of ammonia, trimethylamine, or an alkaloid. It possessed a musty and fish like odor. About half the drug consisted of fiber like that common to plants, with some admixture of extraneous woody matter.

ACCORDING to some authorities the occurrence of tapeworm is limited to fish-eating people. Dr. Braun, of Russia, has been making some experiments in order to determine the facts bearing on this assertion, and finds that the muscles and viscera of the pike and eels brought to the Dorpat market nearly all contained the earlier forms of *Bothriocephalus latus*, and, by feeding animals, as dogs and cats, with this infected flesh, he was always able to produce tapeworms, in some cases identical with those found in human beings.

A SHORT time ago we noticed Mr. Boa's suggestion to prevent the separation of *Confectio Sulphuris* by adding a small proportion of tragacanth, a correspondent of the *Pharm. Jour. & Trans.* now writes that his experience of the confection has been that instead of being too soft it has been rather too hard, and he has met the difficulty by substituting glycerine for one-fourth of the syrup ordered. We cannot account for these different experiences, but possibly they may be attributable to the condition of aggregation of the sublimed sulphur used in each case or the strength of the syrup employed.

*Natural* mineral waters are admitted into the United States free of duty while *artificial* mineral waters are dutiable. In a case



recently brought before the Secretary of State the decision was given that the addition of a saline substance to a natural mineral water, or an impregnation with carbonic acid gas does not make it an artificial mineral water, and it may therefore be admitted free. This principally affects Apollinaris, which is artificially charged with gas; but though the decision does not seem to please some members of the trade, and arouses the ire of the *Chemists' Bulletin* it will probably be quite satisfactory to the Senator who wants his drinks on a free trade basis.

IN REMARKING on the Walkerton poisoning case recently reported in this journal the *Chemists' & Druggists' Bulletin* says that—

“Proprietors cannot be too particular; first, as to the employees they select. If a dispensing clerk, that he be competent, attentive, exact in his duties; if an apprentice, that he has a good education, obedient to the rules of the store, and attends to his own work, not unnecessarily usurping or attempting to do the work that should be done only by competent men. Second, in having such safeguards as will, if possible, preclude some of the errors that might occur; for example, that laudanum does not stand in so handy a place that it shall be readily taken down for some other less dangerous remedy.”

In a paper read at the annual meeting of the Pennsylvania Pharmaceutical Association, Dr. Wolf read a paper on pumpkin seeds. He found the oil extracted by petroleum benzine to be devoid of tæniifuge properties, while that extracted by ether acted well. He agreed with Haeckel that the active principle is a resin, and this may be readily extracted by first exhausting the seeds with petroleum benzine to dissolve oil, and then treating them with alcohol, ether or chloroform. Thus dissolved and evaporated the resin is greenish brown, soft, with an acrid and bitter taste. Fifteen grains may be administered in pill form, or an alcoholic fluid extract may be taken in doses of one or two fluid ounces, followed, in a few hours, by castor oil.

CROTON OIL is particularly liable to adulteration with fixed oils, and as a consequence very various statements are made as to its solubility, particularly in alcohol. The latest experiments have been made by M. L. Jalliard, who gives his results in the

*Union Pharmaceutique.* He found that strong alcohol, 95%, dissolved about one third of an oil which he prepared by the following process, which is strongly recommended to pharmacists. The seeds are placed in a dish with water, well stirred, the water poured off, and the operation repeated. The seeds are then dried and ground, and exhausted with ether or carbon disulphide, preferably the former. The extract is allowed to evaporate spontaneously, about 30 per cent. of oil being recovered.

ACCORDING to Mr. J. L. T. Davison, who contributes an article to the *Pharmacist* on the subject, the best mode of preparing salicylate of lime is as follows: 2 ounces (presumably Troy weight) and 155 grains of precipitated carbonate of lime are mixed with twenty ounces of water in a porcelain dish, 6 ounces, 196 grains of salicylic acid are added, about an ounce at a time, applying heat during the addition and stirring until all effervescence has ceased. Continue direct heat until the salt is granular, when a water bath may be used to finish the product so that a dry white or pink powder may be produced. The salt is not very soluble in water—one part in 34 at 60° F., more soluble in boiling water, and possesses a sweetish astringent taste. It has been used as an application to syphilitic sores in two per cent. solution, and to a slight extent, internally, in rheumatism.

IN A tolerably large experience in the reduction of chloride of silver we have never met with a thoroughly satisfactory process by the wet way, unless the chloride has been recently precipitated. It is claimed, however, by Dr. W. Lagrange, (*Pharm. Zeit.*), that the complete reduction of the chloride may be accomplished by treating it with solution of ferrous oxalate in neutral oxalate of potassium, such as that used by photographers to develop dry plates. This may be prepared by dissolving one part of sulphate of iron and three of neutral oxalate of potassium in twelve of water, or by dissolving seventy-five parts of pure oxalic acid in four hundred parts of hot water, gradually adding one hundred parts of bicarbonate of potassium and finally ten parts of finely powdered metallic iron. The whole is set aside, and occasionally stirred until solution is effected. If the chloride is dirty it may be first dissolved in solution of hyposulphite of sodium and then precipitated by the oxalate.

FROM A translation in the *Druggists' Circular* of an article from the pen of M. Klunge, editor of the Swiss pharmaceutical journal, we learn that there are to be found in castor sufficient evidences of the existence of an alkaloid as to warrant the possibility asserted by the writer, that the active principle of castor is a ptomaine. All the reagents for alkaloids gave positive indications, and this substance possesses the property common to all ptomaines of reducing ferric salts. When to a solution of ferric chloride, and ferridcyanide of potassium, a ptomaine is added, the color immediately changes from a brown to an intense blue, due to the formation of Turnbull's blue, which afterwards settles down. If a little salt be added to the tincture mixed with five to ten times its volume of water, the resin will be precipitated, and the filtered liquid be left in a limpid condition, when it may be tested with phosphomolybdic acid, or ferric chloride, as above, and its richness in alkaloid estimated.

THE behavior of tincture of perchloride of iron towards mucilage of acacia has doubtless been remarked by every dispenser. In certain proportions there results a coagulum more or less gelatinous, but Mr. L. Genois, (*Druggists' Circular*) has remarked that the effect may be varied or avoided at will. If equal parts of water are mixed, and an equal bulk of tincture added, immediate coagulation takes place, but the addition of a few drops of acetic acid makes the mixture quite clear. If three parts of mucilage are mixed with one of tincture, a mixture will be produced that resists any amount of trituration, but if one part of mucilage be mixed with two of tincture the mixture is permanently clear. It is therefore evident that an excess of acid prevents the coagulation, or recovers the mixture from a coagulated condition. An experiment, in which two parts of dilute phosphoric acid, an equal bulk of tincture, and six parts of mucilage with water were used, but the acid kept the mixture clear. The *rationale* is not stated by the author, who confines himself to a simple statement of facts.

MESSRS. REGNAULD AND ROUX (*Jour. de Pharm. et de Chim.*, in *Pharm. Jour. and Trans.*) consider that the compound incontestably the most dangerous with which chloroform can be contaminated is the oxychloride of carbon (chloroxycarbonic gas, phosgene,) resulting from its decomposition by light and air. In

order to determine the exact condition under which this compound is formed, with a view to the after study of the toxic action of the oxychloride, some preliminary experiments were instituted, in which the slow action of light and air were produced by the more rapid influences of electricity and ozone. The spark from a Ruhmkorff coil, discharged in a mixture of chloroform vapor and air, immediately produced a large quantity of the oxychloride. Chloroform vapor in contact with ozone was also quickly changed into the same compound. When a current of nitrogen and chloroform vapor were passed through an effluve apparatus, the chloroform was decomposed, but, in the absence of oxygen, no oxychloride was formed, but certain odorous products, which the authors have since identified as trichloride or sesquichloride of carbon.

SOME twelve years ago, Dr. Wormley, of Philadelphia, announced the fact that the root of gelsemium contains a non-nitrogenous, acid principle, and also a strongly basic substance. To the former the name of *gelseminic acid*, was applied, while the latter was styled *gelsemia*, or *gelsemine*. Both were found to be very poisonous and no doubt represented the active principles of the root. Subsequently, M. Sonnenschein and Mr. C. Robbins, concluded that gelseminic acid was merely *esculin*, the fluorescent principle of horse chestnut bark. In order to test the accuracy of this statement, Dr. Wormley undertook a new series of experiments, the results of which are given in detail, in the *Am. Jour. Pharm.* for July. While these substances were found to resemble one another in several respects, they differed materially in others, and, in summing up the author declares that gelseminic acid and esculin are *not* identical. The chief differences may be said to consist in, the solubility in water, ether, chloroform and the mineral acids; and in the ease with which crystallization can be accomplished. While the acid readily assumes the crystalline form the glucoside is difficult to obtain in this shape. Nitrate of silver, corrosive sublimate, sulphate of copper, and bromine solution gave characteristic reactions with each substance. When tested physiologically these bodies were found to produce very different effects; while both gave rise to fluorescence of the eyes, the gelseminic acid was alone fatal. Half a grain, administered hypoder-

mically to a frog, produced death in ten minutes. Esculin was without effect, save causing fluorescence of the eyes. Gelsemine is however, more poisonous than the acid. One-eighth of a grain killed a cat in an hour and a half, and one-tenth of a grain, given to a frog caused death in about four hours. Those specially interested in the study of the subject will find much interesting matter in Dr. Wormley's paper.

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## ONTARIO COLLEGE OF PHARMACY.

### EVENING MEETING.

A meeting of the students of the College, at which a number of city druggists were present, was held on Friday evening, July 14th, when Mr. James A. Pearce, of Toronto, of Messrs. H. Sugden Evans & Co., delivered a very able and interesting lecture on *Sponges*.

The lecturer entered very minutely into the uses and differences of the many forms of spicules, which form a very essential part of the animal. While the spicules give strength to the sponge, they at the same time act as weapons of defence and instruments for collecting or retaining the organic matter on which the sponge feeds. A number of microscopes were brought into requisition and the audience had an opportunity of examining these minute, but beautiful forms.

The *keratode* which comprises the greater part of the substance known as sponge, is in chemical composition, almost identical with silk. It appears to be deposited in concentric layers, and can be produced with surprising rapidity. If the keratode of one species of sponge comes into contact with that of another, union will not take place, but, with one of the same species the portions at once unite and grow together.

The *sarcod* is a gelatinous substance covering the whole of the keratode, the interstitial cavities, the oscula, etc., and might be compared to the mucous membrane of the mammalia. It is apparently endowed with digestive powers, enveloping annelids and other animalcules in its substance. It is also the medium of nervous force.

The pores of the sponge, or incurrent channels, receive the water, which, after having the food abstracted, is again set free through the oscula, or ex-current channels. These are, therefore, the faecal openings, and are those large pores, or holes, noticeable in ordinary sponges while the smaller holes are those through which the water is drawn. If the sponge be frightened or requires protection, these openings are closed. The animal betrays great sensitiveness in this respect.

The reproductive functions of sponges is still under discussion, but it has been lately announced that spermatazoa have been found to

exist. The ovaria in sponges exhibit very different forms, and it is to the presence of these that the reproductive power is chiefly to be attributed. If one of these is detached from the parent, and finds its exit through the oscula, it will ultimately attach itself to some object, and grow to a perfect animal. Sponges may also be reproduced by germination. The gemmules slightly differ from ova in the fact that they are to be found in the body of the sponge in an isolated condition, while the ovaria are nearer the oscula. Another mode of reproduction is by spontaneous subdivision of the sarcode. Artificial propagation has been successfully accomplished by subdividing the sponge and planting the cuttings in suitable locations. This is at present very profitably done on the Florida coast, the sponges often growing from twelve to fifteen inches a year.

In a short abstract like the present it is impossible to do justice to this very able lecture, which was essentially scientific and thorough. At its close a hearty vote of thanks was tendered to Mr. Pearce, who in accepting it kindly promised, at some future time, to follow up the subject in its commercial and practical relations to the business of the pharmacist.

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### TO MEMBERS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The following is the Entertainment Committee's Programme for the 80th Annual Meeting of the American Pharmaceutical Association at Niagara Falls, September 12th, 1882. The Headquarters will be at the Cataract House; meetings will be held in the assembly room of the Cataract House.

#### ORDER OF PROCEEDINGS.

##### TUESDAY, SEPTEMBER 12TH.

*Afternoon at 3 o'clock.*—Meeting organized; President's address. At the same time, while the Association is in session, there will be an excursion for ladies only, to Prospect Park, where a concert will be given by Wahle's Band.

##### *Evening at 8 o'clock.*

#### RECEPTION AND PROMENADE CONCERT.

Instrumental music by Wahle's Band; solo and chorus singing by the Buffalo Singing Society, and Niagara Falls Liedertafel, both societies having kindly volunteered their services.

##### WEDNESDAY, SEPTEMBER 13TH.

*Morning Session.*—Meeting from 9 a.m. to 12 m.—Election of officers. Adjournment at 12 m. (according to previous custom) to visit the Pharmaceutical Exhibition at the Pavilion in Prospect Park.

*Afternoon at 3 o'clock.*—Excursion in carriages by the entire Association to "Whirlpool Rapids," and "The Whirlpool," American side. T. J. McMahan and W. H. Rogers will be in charge. At the same time there will be a concert at the Cataract House.

*Evening at 8 o'clock at the Cataract House.*

THE AMERICAN PHARMACEUTICAL ASSOCIATION'S BALL, THURSDAY, SEPT. 14TH.

*Morning Session.*—From 9 a.m. to 1 p.m.—Reading and discussion of pharmaceutical papers.*Afternoon at 3 o'clock.*—Excursion by the entire Association to Goat Island; carriages for ladies.*Evening at 8 o'clock.*—Banquet, music, and three-minute speeches.

FRIDAY, SEPTEMBER 15TH.

*Morning Session.*—From 9 a.m. to 1 p.m.—Reading and discussion of papers. Adjournment.*Afternoon at 3 o'clock.*—Independent excursion to Burning Spring and Table Rock, on the Canadian side.*Evening at 8 o'clock.*—Niagara Falls by electric light from Prospect Park; concert as well. NOTE.—Prospect Park and Goat Island have been secured by the Association during the time of its meeting. On the first visit to either place, the coupon ticket will be exchanged for a pass-card, which entitles the holder to enter at pleasure within the specified time.

Wahle's Band has been specially engaged by the Association.

Important request; please read carefully: It is the earnest and reasonable desire of the Council that members regularly attend the deliberations of the Association. After the first two meetings, the greater portion of succeeding sessions will be devoted wholly to the reading and general discussion of pharmaceutical papers. Every member must appreciate the value of an interchange of ideas and experience, and it is specially urged that the meetings be attended by every member present.

Members are specially invited to participate in the discussions.

## PRICE OF TICKETS.

Each member will be furnished with coupon tickets, embracing the entire programme from the commencement to the adjournment, as herein arranged. The cost of tickets has been fixed as follows: To gentlemen, \$5.00; to ladies, \$2.50; member and lady, \$7.50. Extra tickets can be obtained only by members for friends or relatives. It is almost superfluous to add that if each member selected a similar programme, it would cost at least thrice the amount fixed by the Entertainment Committee.

## HOTEL RATES.

Headquarters—Cataract House, per day.....\$3 00

The Committee will do all in their power to domicile the entire Association at the Cataract House.

International Hotel, per day.....\$ 3 00

Hotel Kaltenbach, " ..... 3 00

Goat Island House, " ..... 2 50

Spencer House " ..... 2 50

Rapids House " ..... 2 50

Niagara House, " ..... 2 00

Members are requested when registering their names to affix the letters A. P. A. after their signatures, to ensure above special rates.

#### BUREAU OF INFORMATION.

In the interest of convenience and order, the above bureau has been established at the "Cataract House" which will be in charge of a responsible person; he will have the name, hotel and room number of each attending member. He will also have in charge the correspondence or telegrams, and will see that they, as well as all written or oral communications addressed to the members are promptly despatched; in fact, if you require any information concerning our programme, letters, telegrams, messages, tickets, meetings, or of Niagara Falls, he is the proper person to apply to. Please remember it, and report to the Entertainment Committee any unusual delay in the execution of requests or the transmission of messages.

#### SPECIAL CONCESSIONS MADE TO MEMBERS OF THE A. P. A.

In case it should increase the pleasure members to revisit places of interest at the Falls, special rates, about one third those usually charged, have been secured.

#### SPECIAL CARRIAGE RATES.

(Limited to five adults).

For the forenoon, \$3.00; afternoon, \$3.00; by the hour. \$1.00.

To obtain these rates orders must be left at the Bureau of Information, where they will receive prompt attention.

#### THE PHARMACEUTICAL EXHIBITION

at the Pavilion, in Prospect Park, will be very large, complete and interesting; management will be under the supervision of Mr. Hiram E. Griffith; any correspondence relating to the same must be addressed to him at Niagara Falls.

#### EXCURSIONS.

An excursion will start Saturday morning at 10 o'clock, arriving at Toronto about 2 p.m., Leaving Toronto on board Royal Mail steamer, passing Thousand Islands next morning, and during the day through the Rapids and the whole length of River St. Lawrence, arriving at Montreal about 6.30 p.m. Monday will be spent in Montreal. From Montreal three routes have been selected.

#### EXCURSION NUMBER ONE

leaves Montreal at 8.30 p.m., arriving at Pittsburg 6.50. Next morning, steamer on Lake Champlain to Ticonderoga; railroad to Baldwins, Lake George; steamer to Caldwell; railroad to Saratoga and Albany, and either day or night steamer down Hudson to New York. Tickets, good to stop off at any of the places mentioned from Niagara to New York, \$5.05. State-rooms and Pullman charges extra. Time, 5 or 6 days.

#### EXCURSION NUMBER TWO

leaves Montreal 10 p.m., arriving at Gorham next morning 8.45. Stage to Glen House, (two hours); stage to Tip Top House (two hours); Montreal and Washington railroad to Fabyans and Profile



House, and railroad to Boston, passing Concord, Nashua, and Lowell and Fall River to New York by Sound steamers. Tickets, good to stop off at any of the places mentioned, \$41.40. Staterooms and Pullman charges extra. Time, 7 or 8 days.

#### EXCURSION NUMBER THREE.

Same as number Two, except that it will extend to Quebec, thereby taking one day longer. Tickets, \$43.50.

Hotel rates will be about \$3.00 to \$3.50 per day. Pullman charges \$2.00 for double berth. The probable expense of any of the excursions will be from \$3.00 to \$5.00 per day in addition to the cost of ticket. Any further information will be afforded by Mr. G. J. Seabury, 21 Platt Street, New York, Chairman of the Entertainment Committee.

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## Correspondence.

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### SALE OF PARIS GREEN.

*To the Editor of the Canadian Pharmaceutical Journal.*

DEAR SIR,—It seems to me that Mr. Harvey in his letter, which appeared in the July number of the JOURNAL, is hardly fair to either the president of the council or to Mr. Bray, the chairman of the infringement committee.

As you remark in your editorial, the duty of prosecuting offenders against the Act, rests not altogether with the President, but chiefly with the chairman of the infringement committee of the council. I have understood that Mr. Bray has instructed the detective who is employed by the council, to look after infringements of the Act, as regards sales of Paris Green by unqualified persons, as well as other infringements of the Act. Mr. Bray seems to have entered into this matter very heartily, and I think that the retail trade is greatly indebted to him for his earnest advocacy of "*the Act in its entirety.*" So far as I am aware, the question in regard to Paris Green, was first discussed by the council of the August meeting of 1879, when Mr. Elliot, seconded by Mr. Yeomans, moved in substance that it would be "Inexpedient to prevent Paris Green being sold generally, as at present, seeing it is an article required generally by farmers as a necessary article in carrying on their operations," and that "It would be still more inexpedient to attempt to restrict the sale of articles in common use by manufacturers and the public." Mr. Bray, seconded by Mr. Miller, moved, "That owing to the number of suicides and accidents that have taken place, from the careless handling of Paris Green by incompetent persons, it is the

opinion of the council that the sale of this article should be confined to registered druggists." This motion was lost by a vote of 9 to 3, getting only one vote (Mr. Harvey's) beside the mover and seconder. Excepting to issue circulars, announcing the above named decision of the council, nothing more was done in the matter by the council, until, at the February meeting, 1882, (Mr. Bray then being chairman of the infringement committee) it was moved by Mr. Sanders, of Stayner, seconded by Mr. Perry, "That the resolution passed 7th August, 1878, be rescinded, and that, in the opinion of the council, the Pharmacy Act be enforced in its entirety." The motion prevailed by a bare majority of one, and I have reason to believe that the president did not take steps to give effect to the resolution until after he had been urged by several members, who desired him to do so, after which the advertisement in regard to the illicit sale of Paris Green was inserted in the *Globe* and *Mail*. Mr. Bray has since then taken a great deal of trouble in correspondence with different persons about the matter, inserting notices in local papers, etc. At his request I secured notices of the subject in *our* local papers, with the result that (with one exception) none but druggists sell Paris Green in *this* town.

There is no doubt that to Mr. Bray's persistent advocacy of the enforcement of the Act, we retail druggists, especially in country villages, owe an important increase of our sales, and I am sorry that your editorial and Mr. Harvey's letter do not give the credit due to him.

I think that dealers (other than registered druggists) should also be prevented from selling London purple, hellebore, laudanum and, perhaps, some other articles, not merely because that would add to our sales, but *chiefly*, because there would be to some extent a protection for the public, against accidental and suicidal poisoning. I believe that several suicides have been committed in Canada by persons who knew that they could obtain Paris green, &c., with greater facility from general dealers than from druggists, and acted upon that knowledge.

In these days, when there are so many drug stores all through the Province, I don't think there would be any great inconvenience to the public if persons were obliged to buy poisons from druggists.

Another matter which I should like to bring before your readers is that of the *registration of sales of Paris green*, which I believe is not done generally, or even by any large number of druggists, as it should. The druggists in Windsor have not done so before this year, but are now doing so in every case. Trusting that I may not be trespassing upon your space, I am

Yours very truly,

J. E. D'AVIGNON.

Windsor, July 26, 1882.

## MARKET REPORT FOR AUGUST.

Trade continues good for general sorting-up orders, though few large parcels are moving. Prices generally are steady.

*Opium.*—London advices estimate the crop of Turkey for this year at from 6,000 to 6,500 cases, against 11,000 last year. As considerable stocks of old are held over, prices have not advanced as much as anticipated, but are still decidedly firmer. A speculative advance might take place at any moment.

*Quinine.*—There has been no change in the original markets within the month, and prices have been governed by the state of supplies on the spot. Latterly there has been an undercurrent of speculation, caused by the belief that large quantities will be required in case of military operations continuing in Egypt.

*Miscellaneous Drugs.*—Iodine and iodides are offered at the lowest prices ever known—said to be about half the actual cost of production. This is accounted for by consignments on Peruvian account in London being closed out to cover advances. The otto of rose crop is reported as a comparative failure, and prices have advanced about 50 per cent. Essential oils generally are dull, with the exception of lemon, of good quality, which is held at a high figure. Balsams are very firm, and cubebs have again advanced. Insect powder is in large demand, and is very reasonable in price. Paris green is still selling rapidly, although, in ordinary years, the sales are pretty well over after July 10th. Stocks in the hands of jobbers are thoroughly exhausted, and supplies are limited to the current output of manufacturers. Norwegian cod-liver oil still maintains the advance, and Newfoundland is also dearer. Alexandria senna is dearer, as might be naturally expected. Canary and hemp seeds are also somewhat affected by Eastern complications.

*Gums, etc.*—Cape Aloes continues exceedingly scarce, but other descriptions are plentiful, and prices moderate. Arabics are much dearer, Alexandria being one of the principal shipping ports. Camphor is remarkably cheap, and is worthy of attention at present prices. Shellac is firmer, as the movement of troops from India threatens to interfere with shipping facilities.

• *Spices* are firm and unchanged.

*Paints and Oils.*—A good business is maintained in white lead at unchanged figures. Linseed oil is about two cents higher, in sympathy with the English market. Spirits turpentine fluctuates within very narrow limits, and is not expected to be materially lower this season. There is a good demand for dye woods, and they are, locally, rather scarce.

# Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor not later than the 25th of each month.

## ASSISTANTS WANTED.

- F. P. Reynolds, St. Thomas, wants an Assistant with about two years' experience.
- J. R. Bond, Schomberg, wants an Assistant with about one year's experience.
- C. McGeorge, Ayr, wants, for this and next month, an Assistant to take charge in his absence.
- A Toronto Druggist wants an Assistant for a few weeks in September, to take charge of business during his absence. Apply Office PHARM. JOURNAL, 53 Front Street East, Toronto.
- A city druggist wants an Apprentice with about a year's experience. Address Office PHARM. JOURNAL, 53 Front Street, Toronto.

## WANTING ENGAGEMENTS.

- W. Hamerton, 119 Strachan Avenue, Toronto, wants an engagement in the Perfumery or Druggist's sundries line. Refers to J. F. Lyon & Co.
- Hervey Purkis, Yorkville, four months with Mr. J. C. Lander.

## WANTING ENGAGEMENTS,

### CONTINUED.

- Percy Seacord, Acton, has been in the wholesale drug trade, and can keep books.
- A graduate of the O. C. P. desires a situation as Assistant; four years' experience; references as to character and ability. Address, Druggist, 974 Queen Street, Toronto.

## BUSINESS NOTES.

- Mark Mundy, Belleville, has sold his business to Dr. T. E. Allan, and removed to Peterborough.

## BUSINESSES WANTED.

## BUSINESSES FOR SALE.

## SITUATIONS VACANT.

# REGISTRAR'S NOTICE.

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The address of W. A. Karn, in list of Chemists entitled to keep open shop, in July number of the JOURNAL, should be Woodstock, not Seaforth. The name of G. A. McCann, Wallaceburg, was omitted, and that of Thomas McCamus, Bobcaygeon, inserted, the latter gentleman not having renewed.

The following Druggists have paid the renewal fee since the publication of the annual list.

GEORGE HODGETTS,  
REGISTRAR.

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Ball, John, Drayton.  
Barker, W. T., Trenton.  
Bosworth, N. A., Stratford.  
Branscombe, H. W., Picton.  
Bruce, R. C., Tara.  
Case, Edward W., Picton.  
Clapp, R. C., Mildmay.  
Dennant, R. E., Delta.  
Eastman, D. W., Smithville.  
Fullerton, W. B., Gananoque.  
Goodeve, W., Hanover.  
Gray, R. B., Pembroke.  
Greaves, Joseph, Collingwood.  
Griffis, W. C., Colborne.  
Hall, Henry C., Chatham.  
Harkness, G. W., London.  
Hartman, C. W., Clarksburg.  
Hawley, A. W., Trenton.  
Higginbotham, A., Lindsay.  
Hutty, J. H., Toronto.  
Jackson, G. E., Egmondville.  
Jeffrey, A., Toronto.  
King, J. G., Kingston.  
Laing, Abel, Drummondville.  
Lee, J. R., Toronto.  
Macartney, W. J., Thorold.  
Mackid, J. M., Brantford.  
Meade, H., Trenton.  
Mills, R. J., Ottawa.

Mitchell, B. A., London.  
McCallum, C., London.  
McGregor, C. H., Hamilton.  
McLaren, W. P., Watford.  
Nasmyth, J. H., Stratford.  
Noble, F. D., Port Colborne.  
Parke, W., Hamilton.  
Perry, J. J., Napanee.  
Peterson, Jas., Jr., Wiarton.  
Polson, N. C., Kingston.  
Priddy, R. S., Windsor.  
Roberts, C. H., Paris.  
Robinson, T. H., Orillia.  
Rolls, Wm., Guelph.  
Seymour, J. R., St. Catharines.  
Sherrie, H., Toronto.  
Smith, J. B., Millbrook.  
Tucker, W. J., Manitowaning.  
Turner, Henry, Toronto.  
Wade, R., Lisle.  
Wallace, N. C., Woodbridge.  
Wallace, T. F., Woodbridge.  
Walsh, T. W., Peterborough.  
Weeks, A. D., Uxbridge.  
Wilson, W. J., Kingston.  
Wood, R. A., Toronto.  
Woods, John, Barrie.  
Yeomans, L. H., Mount Forest.

# Ontario College of Pharmacy.

Incorporated by Act of Parliament, 1871.



This is the only authorized School of Pharmacy in Ontario, and is carried on directly under the auspices of the College.

**TERM:**—The Winter Term will commence on Tuesday, October 10th, and continue, with a short holiday at Christmas, until Friday, Jan. 26th, 1883.

**LECTURES:**—*Pharmaceutical and Practical Chemistry.*—A Course of Lectures and Laboratory Instruction.

*Materia Medica*—The lectures will embrace the organic *Materia Medica* of the British Pharmacopœia and be illustrated by a full set of specimens.

*Botany*—The course will include lectures on Elementary Botany and Classification as far as relates to the Botany of the Pharmacopœia. Botanical excursions will take place at intervals during the season, so that the student may gain a practical knowledge of the subject.

*Dispensing*—The lessons will comprise practical instructions on the art of Dispensing, and a short course on the construction and translation of prescriptions.

*Elementary Chemistry*—These lectures will include the principles of Chemical Philosophy, the properties of the elements, etc., and may be regarded as preparatory to the more advanced instructions in Pharmaceutical and Practical Chemistry. This course may be omitted, and a corresponding reduction made in the fees, if the student, on preliminary examination, shows a sufficient knowledge of the subject.

**FEES**—Thirty-six dollars, in advance.

For further particulars apply to

E. B. SHUTTLEWORTH,

*Director.*

DRUGS, MEDICINES, &c.		DRUGS, MEDICINES, &c.—Contd.	
Acid, Acetic, fort .....	per lb 0 12 @ 0 14	Gum Arabic Sorts, powdered ..	0 20 0 30
Benzoic, pure .....	0 15 0 30	Assafoetida .....	0 20 0 25
Carbolic, cryst., med .....	1 25 1 30	Benzoin .....	0 50 0 80
“ com .....	0 0 0 50	Catechu .....	0 12 0 15
Citric .....	0 80 1 00	“ powdered .....	0 20 0 25
Gallic .....	1 60 1 80	Gamboge .....	1 00 1 25
Muriatic .....	0 03 0 06	Guaiacum .....	0 65 1 00
Nitric .....	0 10 0 15	Myrrh .....	0 45 0 85
Oxalic .....	0 18 0 19	Sang Dragon .....	0 15 0 45
Salicylic .....	2 40 2 75	Scammony, powdered .....	4 90 5 00
Sulphuric .....	0 02 0 05	“ Virg. .....	12 50 14 00
Tannic .....	1 10 1 25	Shellac, Orange .....	0 40 0 60
Tartaric, pulv .....	0 65 0 75	Shellac, liver .....	0 44 0 75
Ammon. carb. .....	0 21 0 24	Storax .....	0 65 0 50
Bromide .....	0 75 0 90	Tragacanth, flake .....	0 65 1 35
Iodide .....	5 00 0 00	“ common .....	0 25 0 65
Liquor, 880 .....	0 22 0 22	Galls .....	0 25 0 28
Muriate .....	0 14 0 15	Gelatine, Cox's 6d .....	1 20 1 25
Æther, Nitrous .....	0 27 0 45	“ French .....	0 50 0 80
Sulphuric .....	0 50 0 65	Glycerine, common crude .....	0 25 0 28
Antim. Nig., pulv .....	0 15 0 17	“ 30d .....	0 40 0 45
Tart .....	0 55 0 60	Prices .....	0 00 0 00
Alcohol, 95 per ct., bbl .....	2 75 3 10	Honey, Canada, best .....	0 14 0 16
Arrowroot, Jamaica .....	0 14 0 22	Iron, Carb. Precip. .....	0 16 0 20
Bermuda .....	0 45 0 65	Citrate Ammon. .....	0 95 1 00
Alum .....	0 02 0 03 1/2	“ & Quinine, oz. .....	0 45 1 10
Balsam, Canada .....	0 40 0 50	“ & Strychnine .....	0 18 0 20
Copaiba .....	0 90 1 10	Pechlorice solution .....	0 16 0 20
Tolu .....	1 00 1 25	Sulphate, pure .....	0 06 0 10
Bark, Bayberry, pulv .....	0 18 0 20	Iodine, commercial .....	2 50 2 72
Canella .....	0 12 0 14	Resublimed .....	3 55 3 75
“ pulv .....	0 20 0 22	Jalapin .....	0 75 1 50
Peruvian, yel. pulv .....	0 25 0 50	Kreosote .....	0 75 3 00
“ red .....	1 00 3 50	Leaves, Buchu .....	0 20 0 30
Prickly Ash .....	0 55 0 58	Meliadonna .....	0 30 0 33
Slippery Elm, gld. buik .....	0 18 0 25	Foxglove .....	0 20 0 38
flour, packets .....	0 28 0 32	Henbane .....	0 25 0 25
Sassafras .....	0 12 0 10	Morehound .....	0 15 0 25
Wild Ch rry .....	0 10 0 12	Lobelia .....	0 20 0 25
Berries, Cubebs, ground .....	0 50 0 60	“ pulv .....	0 40 0 45
Juniper .....	0 06 0 10	Senna, Alex .....	0 23 0 25
Beans, Tonquin .....	2 75 3 60	“ E. I. .....	0 10 0 14
Vanilla .....	10 00 15 00	“ Tinneville .....	0 13 0 23
Bismuth, Trisnit .....	2 50 2 60	Uva Ursi .....	0 15 0 17
Carb. .....	2 60 2 70	Lime Chloride .....	0 02 0 05
liquor .....	0 35 0 55	Lime, Hypo hos bite .....	2 00 2 25
Borax, refined .....	0 19 0 20	Sulphite .....	0 10 0 11
Camphor, American .....	0 15 0 37	Lead, Acetate .....	0 14 0 17
English .....	0 48 0 50	“ Brown .....	0 09 0 10
Cantharides .....	1 50 1 60	Leptandrin .....	0 10 0 75
Powdered .....	1 61 1 75	Lye, Concentrated .....	1 00 1 25
Chiretta .....	0 40 0 50	Liquorice, Solazzi .....	0 50 0 55
Chloroform, pure .....	1 25 1 75	“ Maru ci .....	0 35 0 37
“ D. & F .....	1 90 2 00	Other brands .....	0 14 0 35
“ German .....	0 75 0 90	Magnesia, Carb. .....	1 02 0 22
Chloral hydrate .....	1 40 1 60	“ 4 oz. .....	0 19 0 22
Cinchonine, Muriate .....	0 41 0 48	Calcined .....	0 60 0 70
“ Sulphate .....	0 34 0 42	Citrate .....	0 40 0 75
Cinchonidia, Sulphate .....	1 00 1 10	Mercury .....	0 70 0 75
Cochineal, S. G. .....	0 50 0 60	Ammoniated .....	1 20 1 30
Black .....	0 55 0 65	Bichlor .....	0 75 0 90
Collodion .....	0 75 0 90	Biniodide .....	4 00 5 10
Cutt e-Fish Bone .....	0 40 0 50	Chloride .....	0 85 1 10
Ergot .....	0 75 0 80	C. Chalk .....	0 40 0 70
Extract Belladonna .....	2 60 3 10	Nit. Oxyd .....	1 10 1 30
Colocynth, Co. .....	1 25 1 75	Morphia Acet .....	2 65 2 81
Gentian .....	0 50 0 60	Mur .....	2 65 2 80
Hemlock, Ang .....	1 00 1 05	Sulph .....	2 65 2 80
Henbane, .....	3 00 3 50	Musk, pure grain .....	32 00 .....
Jalap .....	2 50 5 00	“ Canton .....	0 60 0 70
Mandrake .....	1 75 2 00	Moss, Irish .....	0 08 0 10
Nux Vom. .....	0 20 0 30	Oil, Almonds, sweet .....	0 60 0 65
Opium .....	1 00 0 00	“ bitter .....	12 00 13 00
Rhubarb .....	4 00 5 00	Aniseed .....	3 75 4 00
Sarsap. Hon. Co. .....	1 00 1 20	Bergamot, super .....	3 80 4 50
“ Jam. Co. .....	4 00 4 50	Caraway .....	3 20 3 50
Taraxacum, Ang .....	0 65 0 80	Cassia .....	1 50 2 00
Flowers, Arnica .....	0 25 0 28	Castor, E. I. .....	0 11 0 14
Chamomile .....	0 20 0 25	Cedar .....	0 50 0 50
Fuller's Earth .....	0 03 0 04	Citronella .....	1 80 2 50
Gum, Aloes, Barb .....	0 30 0 70	Cloves, Ang .....	3 00 3 25
“ Cape .....	0 20 0 25	Cod Liver, Nor., Imp. Gal .....	3 25 3 50
“ powdered .....	0 23 0 25	“ N. F. .....	1 50 0 00
“ Socot .....	0 54 0 75	Croton .....	1 85 2 00
“ pulv .....	0 62 0 80	Hemlock .....	0 45 0 90
Arabic. Select .....	0 40 0 45	Juniper Wood .....	0 65 0 00
“ powdered .....	0 45 2 55	Berries .....	0 00 2 00
“ sorts .....	0 17 0 20	Lavand, Ang. ....oz.	4 50 5 00

DRUGS, MEDICINES, &c.—Cont'd		\$ c.	\$ c.	DYE STUFFS—Continued.			
Oil, Lavand, Exotic.....lb.		1 40	3 50	Argols, ground.....		0 15	0 33
Lemon.....		3 50	4 00	Blue Vitriol, pure.....		0 06½	0 08
Orange.....		2 40	2 60	Camwood.....		0 05½	0 08
Neroli, super.....oz.		3 50	5 50	Copperas, Green.....		0 01½	0 02
Origanum.....lb.		0 65	0 85	Cudbear.....		0 15	0 30
Peppermint Ang.....		11 00	15 00	Fustic, Cuban.....		0 02½	0 03
" Amer.....		4 00	5 00	Indigo.....		0 75	1 00
Rose, Virgin.....		12 00	12 50	Extract.....		0 25	0 36
" good.....		5 90	6 50	Japonica.....		0 06	0 08
Santal A.g.....		9 00	9 75	Lacdye, powdered.....		0 33	0 38
Sassafras.....		0 65	0 80	Logwood, Camp.....		0 02½	0 03
Verbena.....		1 75	2 00	Extract.....		0 9	0 12
Wintergreen.....		4 00	4 40	" 1 lb. bxs.....		0 15½	—
Wormwood, pure.....		9 50	0 00	" ½ lb. ....		0 14½	—
Ointment, blue.....		0 55	0 60	Madder, best Dutch.....		0 12½	0 14
Opium, Turkey.....		4 80	5 25	Quercitron.....		0 03	0 05
" pulv.....		7 70	9 00	Sumac.....		0 06	0 07
Orange Peel, opt.....lb.		0 35	0 40	Tin, Muriate.....		0 10½	0 12½
" good.....		0 16	0 25	Redwood.....		0 03½	0 04
Pill, Blue, Mass.....		0 55	0 75	SPICES.			
Potas., Bi-chrom.....		0 16	0 20	Allspice.....		0 20 @	0 23
Bi-tart.....		0 35	0 40	Cassia.....		0 00	0 25
Bromide.....		0 48	0 5½	Cloves.....		0 40	0 50
Cyanide.....		0 52	0 55	Cayenne.....		0 33	0 37
Carbonate.....		0 13	0 15	Ginger, E. I.....		0 11	0 12
Chlorate.....		0 22	0 2	Jam.....		0 27	0 30
Iodide.....		2 15	2 25	Mace.....		0 85	1 00
Nitrate.....		8 75	11 00	Mustard, com.....		0 20	0 25
Sulphuret.....		0 25	0 35	Nutmegs.....		0 95	1 00
Pepsin, Boudault's.....oz.		1 20	1 20	Pepper, Black.....		0 18	0 20
Morson's.....oz.		0 90	1 00	White.....		0 25	0 26
Phosphorus.....		0 90	1 05	PAINTS, DRY.			
Podophyllin.....		0 45	0 50	Black, Lamp, com.....		0 08 @	0 10
Quinine, Howard's.....		2 10	2 45	" refined.....		0 18	0 25
" G-r-an.....		2 17	2 25	Blue, Celestial.....		0 09	0 12
Root, Colombo.....lb.		0 20	0 40	Prussian.....		0 65	0 75
Curcuma, grd.....		0 11	0 15	Brown, Vandyke.....		0 05	0 06
Elecampane.....		0 16	0 17	Chalk, White.....		0 01	0 01½
Gentian.....		0 07	0 10	Green, Brunswick.....		0 07	0 10
" pulv.....		0 12	0 20	Chrome.....		0 16	0 25
Hellebore, pulv.....		0 17	0 18	Paris.....		0 22	0 24
Ipecac.....		1 75	0 0	Magnesia.....		0 15	0 20
Jalap, Vera Cruz.....		0 38	0 45	Litharge.....		0 07	0 04
Liquorice, select.....		0 13	0 15	Red Lead.....		0 05½	0 07
" powdered.....		0 13	0 15	Venetian.....		0 02½	0 03
Mandrake.....		0 12	0 20	Sienna, B. & G.....		0 07	0 08
Orris.....		0 18	0 25	Umber.....		0 07	0 10
Rhubarb, Turkey.....		2 25	2 40	Vermillion, English.....		0 80	1 00
" E. I.....		0 85	0 95	American.....		0 20	0 22
" pulv.....		1 00	1 20	Whiting.....100 bs		0 75	1 00
Sarsap., Hond.....		0 45	0 65	White Lead, dry, gen.....lb.		0 06½	7 00
" Jam.....		0 60	0 00	" No. 1.....		0 05½	6 00
Squills.....		0 16	0 20	Yellow Chrome.....		0 09	0 15
Senega.....		0 95	1 00	" Ochre.....		0 02	0 03
Spigelia.....		0 55	0 6½	Zinc White, Star.....		0 06½	0 11
Sal., Epsum.....		0 02	0 02½	COLORS, IN OIL.			
Rochelle.....		0 35	0 33	Blue Paint.....		0 12 @	0 15
Soda.....		1 25	1 50	Fire Proof Paint.....		0 06	0 08
Seed, Anise.....		0 12	0 15	Green, Paris.....		0 30	0 37½
Canary.....		6 00	0 00	Red, Venetian.....		0 07	0 10
Cardamon.....		2 85	3 25	Patent Dryers, 1 lb tins.....		0 10	0 12
Fenugreek, g'd.....		0 05	0 09	Putty.....		0 03	0 03½
Flax, O t. Cash 100 bs		3 25	0 00	Yellow Ochre.....		0 08	0 12
" imported.....		3 00	3 25	White Lead, gen. 25 lb. tins.....		1 80	2 00
Hemp.....		0 06	0 07	" No. 1.....		1 60	1 75
Mustard, white.....		0 10	0 15	" No. 2, less 74 pc		1 40	1 50
Saffron, American.....		0 90	1 00	" No. 3.....		1 20	1 25
Spanish.....		18 00	0 00	White Zinc, Snow.....		2 25	2 35
Santonine.....		7 50	10 00	NAVAL STORES.			
Sago.....		0 08	0 09	Black Pitch.....		3 50 @	4 00
Silver, Nitrate.....Cash		13 20	14 00	Rosin, Strained.....lb		4 00	4 00
Soap, Castile, mottled.....		0 10½	0 11½	Clear, pale.....		5 50	6 5½
Soda, Ash.....		0 02½	0 05	Spirits Turpentine Imp. Gall.....		0 88	0 91
Bicarb. Newcastle. Keg		1 25	3 75	Tar Wood.....		3 75	5 00
" Howard's.....lb		0 16	0 16	OILS.			
Caustic.....		0 03	0 05	Cod Imp. Gall.....		0 65 @	0 70
Spirits Ammon., arom.....		0 40	0 45	Lard, extra.....		1 5	1 10
Strychnine, Crystals.....oz		1 75	2 00	" No. 1.....		0 85	0 90
Sulphur. Precip.....lb.		0 15	0 16	Linsced, Raw per gals.....		0 72	0 75
Subl'med.....		0 03½	0 03½	Boiled.....		0 76	0 80
Roll.....		0 02½	0 03½	Veats-foot.....		1 20	1 20
Verdigris.....		0 50	0 55	Olive, Common, Imp. Gall.....		1 05	1 45
Wax, White, pure.....		0 65	0 75	Salad.....		2 1	2 20
Zinc. Chloride.....oz		0 10	0 15	" Pints, cases.....		4 00	4 20
Sulphate, pure.....lb		0 09	0 12	" Quarts.....		3 25	3 50
" common.....		0 06	0 10	Seal Oil, Pale, Imp. Gal.....		0 70	0 80
DYE STUFFS.				Union Salad.....		0 90	1 00
Annatto.....		0 35 @	0 60	Sperm, genuine.....		2 25	2 40
Aniline, Magenta, cryst.....		2 25	2 50				



# CANADIAN PHARMACEUTICAL JOURNAL.

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TORONTO, SEPT., 1882.

WHOLE No. CLXVIII

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## Ontario College of Pharmacy.

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### MINUTES OF THE SEMI-ANNUAL MEETING OF THE COUNCIL.

The regular half-yearly meeting of the Council was held on Wednesday, Thursday and Friday, 2nd, 3rd and 4th August, 1882, at the rooms of the College, corner of Scott and Wellington Streets.

The following members were present : Mr. Hugh Miller, President ; Mr. G. J. Waugh, Vice-President ; Messrs. W. T. Bray, W. A. Gunn, E. Harvey, J. Henderson, N. C. Love, R. H. Perry, H. J. Rose, W. B. Sanders (Stayner), Wm. Saunders (London) and L. W. Yeomans.

The meeting was called to order at 2.30 p.m. A letter of apology for non-attendance was received from Mr. Wm. Elliot.

The minutes of the meeting held 1st and 2nd February were read and approved.

The several Standing Committees were not prepared to report, it was agreed they meet this evening to prepare their reports for presentation to-morrow morning.

The report of the Board of Examiners was read.

### EXAMINERS' REPORT.

Your Examiners beg to report that the Twenty-Third Semi-Annual Examination was held on July 25th, and three following days. Thirty-four candidates were in attendance, of whom the following twenty-two obtained 80 out of a possible 120 marks, and are therefore entitled to diplomas :

NAME.	MARKS.
1. H. Webber, Ottawa .....	102
2. Ernest F. Robinson, Yorkville.....	100
3. S. W. S. Toms, Whitby .....	100
4. F. H. Yapp, Brantford .....	99
5. Jos. Benson, Toronto.....	99
6. F. W. Hall, Chatham .....	98
7. M. A. Eby, Port Elgin .....	98
8. G. Suttie, Orangeville .....	97
9. Ed. Higginbotham, Bowmanville .....	91
10. W. W. Boothe, Toronto .....	90
11. J. H. Browett, Ingersoll.....	89
12. W. C. McLean, Barrie.....	86
13. G. O. Patterson, Toronto.....	84
14. W. Taylor, Harriston .....	84
15. Jas. A. Allen, Adolphustown .....	82
16. E. Casselman, Morrisburg .....	82
17. C. Duncan, Seaforth.....	81
18. S. N. Erbe, Toronto .....	81
19. A. A. Campbell, Hamilton .....	80
20. H. B. Bridgland, Bracebridge.....	80
21. J. W. Sutherland, Belleville.....	80
22. G. Crawford, Moorfield.....	80

The first prize has been awarded to H. Webber, Ottawa, with a record of 102. E. F. Robinson and S. W. S. Toms each obtain 100 marks, and in view of this high record your Examiners beg to recommend a second prize to each.

The first places in the several branches were taken as follows:

*Chemistry*—F. H. Yapp.

*Materia Medica*—H. Webber.

*Pharmacy*—F. H. Yapp.

*Dispensing*—E. F. Robinson.

*Botany*—F. H. Yapp.

*Prescriptions*—J. Benson.

Your Examiners are also pleased to report that the degree of proficiency shown is above the average of previous examinations, more especially in the department of practical dispensing.

All of which is respectfully submitted.

E. B. SHUTTLEWORTH,

HENRY J. ROSE,

WM. BRYDON,

L. W. YEOMANS,

E. GREGORY,

WM. S. ROBINSON.

Moved by Mr. Saunders, (London), seconded by Mr. Love, That the report of the Board of Examiners be received and adopted. Carried.

The Registrar-Treasurer's report was next read.

REGISTRAR—TREASURER'S REPORT.

Office of the Registrar-Treasurer,  
Toronto, 2nd August, 1882.

To the Council of the Ontario College of Pharmacy.

GENTLEMEN :—Your Registrar-Treasurer begs to report that since the meeting of the Council in February last, the following names have been entered on the Register, viz :—A. J. Collver, Otterville; Byron Field, Pickering; John Granger, Dresden; J. H. Lowe, Fenelon Falls; and T. S. T. Smellie, Prince Arthur's Landing; four of the gentlemen are Medical Practitioners.

I have received for the College, (from Prof. Maisch) a copy of the proceedings of the twenty-ninth annual meeting of the American Pharmaceutical Association.

The thirtieth annual meeting of the Association will be held at Niagara Falls, on Tuesday, 12th September, and three following days. From the programme which has been published, it promises to be one of the most interesting meetings held by that body.

There is no doubt it will be largely attended by members from every part of the United States and Canada.

The renewals issued during the past six months were as follows :—Two for 1880; seven for 1881; and four hundred and seventeen for the current year. Also renewals for seven branch stores. I have reason to believe there are branch stores being run without certificates and without renewal fee being paid for the same. A visit from the Public Prosecutor might have the effect of waking the proprietors to a sense of their duty.

There are about one hundred and sixty-seven members in arrear for the renewal fee for the current year.

I beg to submit the following detailed statement of receipts and disbursements for the half-year ending 31st July, 1882.

1882.

*Receipts.*

Feb. 1. To Cash in hand .....	\$ 6 00
“ Balance in Canadian Bank of Commerce.....	1105 10
“ Renewal Fees.....	1708 00
“ “ branch stores.....	7 00
“ Registration fees.....	20 00
“ Associate's “ .....	8 00
“ Examination “ .....	136 00
“ Acct. New Diplomas.....	2 00
“ Sale of Poison Books.....	5 25
“ Dividend on Can. B'k of Commerce Stock ..	240 00
“ “ Southern Loan Co. “ ..	17 50
“ “ People's “ “ ..	3 50
“ Pharmaceutical Journal .....	80 75

**\$3339 10**

1882.

*Disbursements.*

Feb. 2.	By Expense of semi-annual meeting .....	\$ 160 36
"	"        Examiners, &c.....	152 60
"	"        Auditors.....	10 00
"	Editor's salary, six months .....	250 00
"	Registrar's "        .....	250 00
"	Bonus to Registrar.....	100 00
"	Half-year's rent of rooms.....	150 00
"	Postages .....	30 00
"	Printing Pharmaceutical Journal, 7 months.	357 00
"	"        Exam'n papers, List of Druggists, &c	17 00
"	Messrs. Elliot & Co., examination supplies...	15 50
"	Messrs. Lyman Bro. & Co., exam'n supplies.	10 75
"	Advertising \$28.00; John Ritchie, \$65.50 ...	93 50
"	J. Bain & Son \$16.00; Wm. Revell \$5.60 ...	21 60
"	J. Lovell \$5.00; Guarantee Co. \$15.00.....	20 00
"	Rolph Smith & Co. new diplomas.....	30 00
"	Prosecutions .....	129 40
"	Sundry small accounts.....	3 15
"	Education Committee .....	4 20
July 31	" Balance in Can. Bank of Commerce.....	1534 04

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\$3339 10

Joseph Hollingshead, of Nobleton, who on two previous occasions applied for registration, each time being refused on account of proof not being satisfactory, against whom an action was laid for contravening the Pharmacy Act, now renews his application for registration, this time furnishing declarations that he was in business on his own account prior to 15th February, 1871.

All of which is respectfully submitted.

GEO. HODGETTS,  
*Registrar & Treasurer.*

Moved by Mr. Love, seconded by Mr. Harvey, That the Registrar-Treasurer's report be received and adopted. Carried.

Communication was read from C. A. Bird, asking that his Examination fee be returned, as he does not intend to present himself for examination.

Moved by Mr. Love, seconded by Mr. Rose, That the fee paid by C. A. Bird be returned. Carried.

Communication was read from J. P. May asking for registration, and referred to Registration Committee.

A communication from Joseph Hollingshead, renewed application for registration, was read and referred to the same committee.

A communication from Mr. W. S. Robinson resigning his position as demonstrator of Practical Dispensing in the Teaching College was read, and referred to the Educational Committee.

YORKVILLE, July 31st, 1882.

*To the Council of the Ontario College of Pharmacy.*

GENTLEMEN,—Permit me to tender to you my thanks for the confidence you placed in me in appointing me as teacher of Practical Dispensing, &c., at the meeting held in February last, and which I very reluctantly accepted. Having seen the teaching body established with very good results—under some difficulties incident to all beginnings—I have to offer my congratulations, and would respectfully urge you, in the interests of Pharmacy, to foster the school to a solid basis.

I regret that I shall not be able to continue in the position you were pleased to confer upon me, and therefore request that you will please accept this my resignation as teacher, assuring you that I shall not cease to feel a deep interest in the well-being of the educational advancement of the College.

I have the honor to be, gentlemen,

Yours obediently,

WM. S. ROBINSON.

Moved by Mr. Harvey, seconded by Mr. Waugh, That the President be requested to lay before this Council on Thursday morning the report of the individual examiners. Carried.

Moved by Mr. Bray, seconded by Mr. Harvey, That the Council adjourn to meet at 10 a.m. to-morrow (Thursday). Carried.

Council adjourned at 4 p.m.

THURSDAY, 3RD AUGUST.

Council met at 10 a.m.

The Finance Committee presented their report, as follows:

REPORT OF FINANCE COMMITTEE.

GENTLEMEN,—Your committee beg to submit a statement of cash on hand and estimated receipts, now due and estimated up to the 1st February, 1883, shewing a

Balance on hand of.....	\$447 04
On hand and estimated receipts to Feb. 1.....	\$2,695 04
Accounts now due.....	\$1,293 00
“ estimated to Feb. 1.....	955 00
	<hr/> 2,248 00
Shewing balance on above.....	447 04

Examinations and Council meeting of February	342 00
" Supplies, \$30 ; advertising, \$10..	40 00
	<hr/> 382 00
Balance.....	\$65 04
All of which is respectfully submitted.	

August 3, 1882.

N. C. LOVE,  
Chairman.

Moved by Mr. Love, seconded by Mr. Sanders, (Stayner),  
That the report of the Finance Committee be received and adopted.  
Carried.

The Permanent Educational Committee presented their  
report.

## REPORT OF EDUCATIONAL COMMITTEE.

Your committee beg to report that the teaching college has completed its first course of lectures under favorable circumstances, and though the attendance has not been large (probably on account of the short notice given) there is every prospect, however, of a larger attendance next session, judging by the number of applications and enquiries.

Your committee, out of many applicants, selected Prof. Montgomery as lecturer on botany, and the selection has proved satisfactory. Prof. Shuttleworth not having sufficient time at his disposal to take the courses on pharmacy and chemistry, called in the assistance of Prof. Smyth of Trinity College, who undertook the elementary chemistry. This arrangement has been found insufficient for the requirements of the students, and it is proposed to add a course of pharmaceutical chemistry, combined with practical laboratory work, to be taken by Mr. Shuttleworth.

We regret to report that Mr. Robinson who has ably filled the position of instructor in practical dispensing, has found it necessary to send in his resignation. Mr. Rose has consented to supply the vacancy for the ensuing session.

From the financial statement, details of which are hereby submitted, it will be seen that though the closest economy has been observed, the grant of four hundred dollars has been slightly exceeded, but it must be remembered that at least seventy-five dollars of this expenditure has been incurred in providing increased accomodation for the examination of students as asked for in the last examiners' report. Eight new dispensing tables have been provided, drawers furnished to all the tables, with other improvements, hence a portion of the amount is properly chargeable to examination expenses. In view of the importance of maintaining the efficiency and increasing the reputation of our teaching department, the committee would recommend a further grant

of two hundred dollars for the purpose of supplying some of the additional apparatus, specimens, charts, &c., required for the effective illustration of the lectures.

Your committee have to thank Messrs. Lyman Bros. & Co., Messrs. Elliot & Co., Prof. Shuttleworth, and others, for generous contributions of materia medica specimens. and would be thankful to add to the list of donors. The thanks of the committee are also due to the Dean and Faculty of Toronto School of Medicine for the use, on several occasions, of the microscopes and room at their college buildings.

Your committee would ask the Council for permission to use the glass closets with such of their contents as can be utilized for the purposes of instruction in practical dispensing.

Respectfully submitted,

NEIL C. LOVE,  
Chairman.

*Statement of Expenditure—Educational Department.*

Carpenters work.....	\$ 65 75
Painters' " .....	7 75
Plumbers' " .....	24 01
Apparatus and Specimen bottles.....	217 09
Furniture .....	5 76
Chemicals.....	76 17
Plates, Charts, &c.....	13 96
Materia Medica and botanical specimens .....	16 30
Printing, stationery and advertising.....	19 10
Cleaning, gas, &c.....	21 60
	—————\$467 49

Moved by Mr. Love, seconded by Mr. Yeomans, That the report of the Educational Committee be received.

In amendment, it was moved by Mr. Saunders (London) seconded by Mr. Henderson, That the report of the Educational Committee be amended, by making the \$200 grant include the amount of \$64<sup>57</sup>/<sub>100</sub>, incurred in providing the increased accomodation for examinations, and that the report with the above amendment be adopted. Carried.

Moved by Mr. Saunders, seconded by Mr. Gunn, That the Registrar be instructed to keep an inventory of all the apparatus and appliances belonging to the College, including that procured for the use of the teaching department of the College, and that sufficient insurance be effected on the same. Carried.

The following report of the Committee on Change of time for holding the examinations was read.

*To the President, Vice-President, and Members of the Council of the Ontario College of Pharmacy.*

Your Committee, appointed at the last meeting of the Council, recommend that the semi-annual examinations of the Ontario College of Pharmacy be held on the third Tuesday in June and December, to take effect after next January examination, and that the report of the Examiners be handed to the President for approval before being made public.

W. A. GUNN,  
Chairman.

On behalf of Special Committee.

Moved by Mr. Gunn, seconded by Mr. Love, That the report be received and adopted. Carried.

Moved by Mr. Sanders, (Stayner), seconded by Mr. Waugh, That the Council adjourn to meet at 9 a.m. to-morrow.

Moved in amendment by Mr. Saunders, (London), seconded by Mr. Henderson, That the Council adjourn to meet at 2 p.m.

The amendment was put and declared lost, the original motion was then put and carried.

Council adjourned at 12.10.

FRIDAY, 4TH AUGUST.

Council called to order at 9.10 a.m. Messrs. Saunders, (London), and Yeomans being absent.

Mr. Bray, Chairman of the Infringement Committee, read his report.

*To the President, Vice-President and Members of the Council of the Ontario College of Pharmacy.*

GENTLEMEN,—Your Committee on Infringements after receiving the within letter from Mr. Hodgetts, beg to submit the following report :

TORONTO, March 9, 1882.

W. T. Bray, Esq., Wingham,

DEAR SIR,—Your letters to Mr. Miller and self of the 3rd inst., were duly received, and would have been answered sooner, but were waiting to hear from Mr. Sanders. I heard from friend Saunders (London) to whom I had written on the subject of public prosecutor, he suggested a small committee to consist of the president, Mr. Love and Mr. Sanders, and that the expenditure be limited to \$200 for this season, fortunately Mr. Sanders (Stayner) passed through the city a day or two ago on his way from Ottawa, he called on me when we arranged for a meeting at Mr. Miller's. I suggested to the committee the advisability of having three



prosecutors, one for the central district, Toronto, east to Cobourg, and west to Guelph, inclusive, taking in the district lying north and south of those places in a straight line, the western to embrace the country west of Guelph, north and south, and the eastern from Cobourg east, north and south. You, as chairman of the Infringement Committee, having all the cases under your notice, could then have communication with W. A. Gunn, Kingston, for infringements in the eastern district, and Mr. Sanders, of Stayner, for Toronto or central, and the western under your own immediate control. Mr. Sanders thinks the idea a very good one, the other members agreeing thereto. Mr. Sanders named Mr. Joseph Rogers of Barrie, chief constable of the County of Simcoe, who has consented to act. I will write him. If you know of any cases in his district you can write him. I will write Mr. Gunn to appoint a reliable man for the eastern district.

Now, if you know just the man for the western district, set him to work and take the Chatham case in hand at once. In every case the public prosecutor must get a document signed by the magistrate and countersigned by either yourself, Gunn or Sanders, as the case may be, before he can receive the amount voted by the Council, viz: Ten dollars and travelling expenses (he also getting half the fine imposed by the magistrate.) In unsuccessful cases he will only get five dollars, no travelling expenses.

Yours fraternally,

GEO. HODGETTS.

Mr. W. T. Bray, the Chairman, appointed Mr. W. J. McRener, of Chatham, County Constable of several western counties, Public Prosecutor for the western division; Mr. W. B. Sanders, appointed Mr. Joseph E. Rogers, of Barrie, County Constable of Simcoe, Public Prosecutor for the central district; and Mr. W. A. Gunn appointed Detective Sullivan, of Kingston, Prosecutor for the eastern section. There have been two cases of alleged infringement of the Pharmacy Act in the west, viz: J. Wesley Fysh, of Otterville, who had been carrying on a general drug business without the necessary qualification. The Chairman instructed the Public Prosecutor to proceed against him. The case was taken before two Justices of the Peace, and Mr. Fysh was convicted and fined \$8.00 and costs. The other case was against Mr. Witherspoon, of Chatham. Your committee had very good reason to suppose that Witherspoon had a monetary interest in the business of Mr. H. W. Hall, of Chatham. The case was dismissed with costs as per enclosed statement, evidence, &c. The enclosed report from Mr. J. E. Rogers, Public Prosecutor, gives a full and detailed statement of the Prosecution in the district controlled by Mr. W. B. Sanders.

On behalf of the Infringement Committee.

## INFORMATION.

[COPY.]

CANADA, } The Information and Complaint of William James McRener,  
 Province of Ontario, } of the Town of Chatham, in said County, taken before the  
 COUNTY OF KENT, } undersigned, Police Magistrate for the Town of Chatham,  
 To Wit: } who saith that George Witherspoon did at the Town of  
 Chatham, on the 5th day of May, A.D. 1882, unlawfully sell poisons, to wit: Laudanum, without being registered under the Pharmacy Act, and without having taken out a certificate under the Provisions of Section 19 of the same act, for the time during which he sold the same as aforesaid.

Wherefore the said Complainant prayeth that the said George Witherspoon may be brought forward to answer the complaint and be further summarily dealt with as the law directs.

Sworn, subscribed and taken at Chatham, this }  
 fifteenth day of May, A. D. 1882. } W. J. McRENER.

M. HOUSTON, Police Magistrate.

## [COPY OF EVIDENCE.]

CHATHAM, May 15th, 1882.  
 WILLIAM JAMES McRENER, } Violation of Pharmacy Act. Charge is  
 vs. } in the Information, Douglass appears for  
 GEORGE ALEXANDER WITHERSPOON, } Prosecution; Wilson for Defendant. Information read to Defendant and pleads not guilty. Admitted defendant not licensed, and that he sold Laudanum, mentioned in the Information, and that it, Laudanum, is Poison, and contends that he is not a principal and not liable under the Act, and Defendant produces certificate of Henry C. Hall, as Pharmaceutical Chemist, dated first May, 1881, and the defence in their admission say that Defendant so sold in the Central Drug Store, at the corner of King and Fifth Street, Town of Chatham.

HENRY C. HALL, sworn.

I am the Henry C. Hall mentioned in Certificate produced, I have a place of business at corner of King and Fifth streets, named Central Drug Store, Town of Chatham. I have no partner—have employees, George A. Witherspoon, the Defendant; and Henry Neff and James C. Hall, my brother. I have had the store six or seven months. I think I oversee it personally, but not all the time. I reside in Blenheim, the reason is I have been sick. I stay there purely temporarily—only to recruit up. I keep a horse and buggy, and drive back and forwards. The store is advertised in my name. My goods are in the store, and my name upon the labels on bottles sold. There is a chattel mortgage on the goods for money I borrowed of him, he, the Mortgagor in said chattel mortgage. Defendant Witherspoon has never been in partnership with me; the Defendant has had large experience to my personal knowledge. I do not know how long. The Defendant and myself were in partnership in that business in Detroit, before I came to Chatham, and I know him to be competent. I never had goods shipped to me in the name of Hall and Witherspoon; some came in that name by shipper by his mistake. I told shipper not to send goods in that name. We were not partners. Defendant has no interest in the goods further than a mortgagee.

Case dismissed with costs, as follows: Clerk's fees, \$1; 1 Summons, 25c; Attendance, A. B. Barton, \$1; Witness, H. C. Hall, 50c; Total. \$2.75.  
 (Sd.) M. HOUSTON, P.M.

*To the Chairman and Members of the Infringement Committee, Ontario College of Pharmacy:*

GENTLEMEN,—Herewith I beg to submit to you my report, as your public prosecutor for the central district of Ontario.

Since my appointment I have received instructions to proceed

in seven cases of infringement of the Pharmacy Act, in all of which I have succeeded in securing convictions, and a list of which I herewith beg to append.

DEFENDANT.	RESIDENCE.	NATURE OF INFRINGEMENT.	FINE.
W. R. Tudhope.....	Gravenhurst.	Keeping open shop.	\$10.00
W. R. Howell .....	Beeton.	Keeping open shop.	5.00
J. S. K. Angus .....	Haliburton.	Keeping open shop.	1.00
W. R. Tudhope.....	Gravenhurst.	Assuming title Druggist.	5.00
John Fisher .....	Gravenhurst.	Keeping open shop.	5.00
Joseph Hollingshead ..	Nobleton.	Keeping open shop.	1.00
Joseph Hollingshead ..	Nobleton.	Assuming title Druggist,	1.00

I regret to state that in each prosecution I have experienced great difficulty in securing a sufficiently large fine, and in three cases barely secured a conviction, owing to the sympathies of the presiding magistrates being with the defendants. In this connection I would respectfully submit that the fees allowed by the College to prosecutors are inadequate to the amount of work required to secure evidence and successfully conduct prosecutions, and would therefore request that if the Council Board cannot grant a larger fee, that at least *all* travelling expenses should be included with the existing fees. Acting under instructions from your chairman, *Re* the sale of Paris Green by unlicensed vendors, I have to report that many complaints have been made to me verbally, as well as in writing, by registered chemists in my district, and that I have in each case notified the infringing parties of their contravening the Pharmacy Act. I am further pleased to add that throughout the portion of the district which I have visited, the utmost satisfaction has been expressed to me (even by some engaged in the illegal traffic) with the efforts that are being made by the Council Board to confine the sale of poisons to their proper channel.

In conclusion, I have to thank your chairman and Messrs. Sanders and Hodgetts, for their assistance in the discharge of my duties. All of which is respectfully submitted,

JOS. E. ROGERS.

*In re* sale of Paris green by unlicensed vendors your committee beg to state that the chairman having received a great number of letters from registered druggists anent this question, and not wishing to assume the whole responsibility, entered into correspondence with the president, registrar and other members of the Council to ascertain their opinion on this vexed question; The president (through the secretary of the College) thought it advisable to allow every one who chose to sell this article, as did also some others of the Toronto members, but several members of

the Council outside the city thought the sale should be restricted to registered druggists only. On receipt of the several replies the chairman again wrote the president, when the following notice was sent to him also stating that it would be inserted in the daily *Mail* and *Globe* alternate days, and in the PHARMACEUTICAL JOURNAL. It appeared in the daily papers, but through some unaccountable cause it was omitted from the JOURNAL:

**TO RETAIL DEALERS IN PARIS GREEN.**

*To Hardware Merchants, Grocers, General Store-keepers, and all whom it may concern.*

The Council of the Ontario College of Pharmacy would draw the attention of all concerned to Sec. 25 of the Pharmacy Act, which provides that "No person shall sell or attempt to sell any of the articles mentioned in Schedule A to this Act, unless such person is a duly registered Chemist and Druggist, who has paid the renewed registration fee as required by Sec. 20 of said Act."

Schedule A., part 1, names arsenic and the compounds thereof, which includes Paris Green.

All unqualified persons selling poisons, or otherwise infringing the above Act, are liable to be proceeded against by the prosecutors appointed by the Council.

HUGH MILLER,

President.

GEO. HODGETTS,

Registrar.

W. T. BRAY,

Chairman of Infringement  
Committee, Wingham.

After this notice appeared in the above named papers, the chairman received a great many letters from druggists asking if hardware and general merchants were allowed to sell Paris green, several of said letters containing a list of unlicensed vendors who were selling it, and asking him to notify them to discontinue the sale. He answered every letter and enclosed a notice to all who had been contravening the Act warning them that they were liable to be prosecuted unless the traffic in this article was not at once discontinued! He also caused notices to be inserted in twenty local papers in different sections of the country, drawing attention to advertisement in the daily *Mail* and *Globe*. Your committee are of the opinion that the action taken by the Council at their last session in this matter meets the views of the majority of the retail druggists of Ontario, as can be seen by letters in the hands of the chairman. We also commend Messrs. J. E. Rogers and W. J. McRener, public prosecutors, for the energy and good judgment displayed by them in so successfully carrying out the prosecutions, and through their exertions preventing to a great extent the indiscriminate sale of Paris green by unlicensed vendors, without additional expense to the Council.

Before closing this report your committee would respectfully draw the attention of all registered druggists to clause 27 of the the Pharmaceutical Act of 1871. All of which is submitted.

W. T. BRAY,

Chairman,

The Chairman of the Infringement Committee laid before the Council the large number of letters he had received respecting the sale of Paris Green and other poisons by unqualified persons.

Moved by Mr. Love, seconded by Mr. Sanders, That the correspondence be not read.

Moved in amendment by Mr. Henderson, seconded by Mr. Harvey, That all correspondence in the hands of the Chairman of the Infringement Committee be read now.

The amendment was declared carried.

After reading a large number of letters, which occupied some time, it was moved that the further reading of them be omitted. Carried.

Moved by Mr. Bray, seconded by Mr. Love, That the report of the Infringement Committee be adopted. Carried.

The Auditor's Report was read.

# AUDITOR'S REPORT.

Toronto, August 3rd, 1882.

To the Council Ontario College of Pharmacy.

GENTLEMEN,—We, the undersigned Auditors, appointed to audit the books of the College, beg leave to report that they have carefully examined the books of the Registrar and Treasurer for the past half year, and compared vouchers with same, and have found everything correct. Herewith find statement of the assets and liabilities of the College on Aug. 1st, 1882.

Respectfully submitted,

R. A. WOOD,  
JOHN C. LANDER, } Auditors.

# STATEMENT OF ASSETS AND LIABILITIES, AUGUST 1ST, 1882.

## Assets.

60 shares Bank Commerce Stock @ 143½ .....	\$4365 00
10 " Southern Loan @ par .....	500 00
2 " Peoples Loan @ par .....	100 00
Cash in Bank.....	1534 04
Furniture, apparatus, &c., in Rooms.....	1000 00
Outstanding accounts .....	640 00
	<hr/>
	\$8139 04

## Liabilities.

Due Permanent Educational Committee.....	\$395 80
Salaries .....	375 00
Printing JOURNAL, 2 months .....	102 00

Advertising.....	28 00
Balance .....	7238 24
	<hr/>
	\$8139 04

Moved by Mr. Harvey, seconded by Mr. Bray, That the report of the Auditors be received and adopted. Carried.

On motion, Council adjourned till 2.30 p.m.

On resuming business, the report of the Committee on Registration was read.

#### REPORT OF REGISTRATION COMMITTEE.

TORONTO, August 3rd, 1882.

Your Committee beg to report that they have considered the renewed application for registration of Joseph Hollingshead, Nobleton. This time he has furnished sworn proof that he was in business on his own account for a period of five years prior to the passing of the Pharmacy Act. We would now recommend that registration be granted to him.

We would ask that the application for registration of John P. May to be laid over for the committee to deal with, on receipt of the proof of qualification required by the Council.

Respectfully submitted.

NEIL C. LOVE, *Chairman.*

Moved by Mr. Love, seconded by Mr. Harvey, That the report be received and adopted. Carried.

Moved by Mr. Sanders, seconded by Mr. Gunn, That a copy of the Journal be mailed to each of the Public Prosecutors. Carried.

Moved by Mr. Love, seconded by Mr. Rose, That the President, mover and seconder, be appointed to confer with the Council of Ontario College Physicians and Surgeons, who contemplate building, with the object of obtaining a more suitable and permanent location for the Ontario College of Pharmacy. Carried.

Moved by Mr. Bray, seconded by Mr. Rose, That Mr. Shuttleworth furnish this Council with the amount received from pupils attending the Teaching College for the past term. Carried.

#### RECEIVED FROM FEES FIRST SESSION O. C. P.

18	students	@	\$30.00	each.....	\$540.00
2	"	"	12.00	" .....	24.00
1	"	"	10.00	" .....	10.00

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\$574.00

E. B. SHUTTLEWORTH.

Moved by Mr. Harvey, seconded by Mr. Sanders, That any druggist keeping open branch stores, must pay for each such branch store for certificate, said certificate to be publicly displayed in accordance with the Act, and the Registrar is instructed to collect for each such the sum of Four Dollars. All previous motions regarding this matter are hereby annulled.

In case of parties refusing to take out the above certificates, the Registrar is instructed to take immediate legal action for the collection, and so have a test case, in accordance with sections 19 and 23 of the Pharmacy Act. Carried.

The Registrar laid before the Council the case of Mr. J. E. Brown, of Delta, in the County of Leeds, who was guilty of infringement, by carrying on business in the name of R. E. Dennant, who has been dead some years.

The matter, at first, was referred to the Chairman of the Infringement Committee, subsequently, Mr. Gunn undertook to write to parties in Delta, and report to the Registrar.

Moved by Mr. Harvey, seconded by Mr. Love, That the account of the Chairman of Infringement Committee for expenses incurred in carrying out the Act in accordance with instructions from the Board, be paid. Carried.

Moved by Mr. Sanders, seconded by Mr. Harvey, That the President be authorized to draw the necessary amount of cash to pay the members for attending this meeting, said amount to cover the actual amount required for time occupied in coming to, returning from, and attending the meeting. Carried.

Moved by Mr. Harvey, seconded by Mr. Bray, That no special delegate be appointed to the meeting of the American Pharmaceutical Association, but that as we are entitled to five delegates, that as many as possible will attend. Messrs. Love, Sanders, Waugh and the mover and seconder to be the accredited delegates. Carried.

Moved by Mr. Harvey, seconded by Mr. Sanders, That the Council adjourn to meet on the first Wednesday in February, 1883, at three o'clock in the afternoon. Carried.

Council adjourned 4.20 p.m.

GEORGE HODGETTS, *Registrar.*

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## Editorial.

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### INFRINGEMENTS OF THE ACT.

From the report of the council meeting, which occupies considerable space in this number, it will be seen that steps have at length been taken towards the enforcement of the Act, not only with respect to those who directly offend by carrying on business without registration, but in the matter of the sale of Paris green.

A letter from a correspondent, published last month, gave a very good account of the feeling of the Council on this question. The view taken by members has changed very considerably, and though the Council might not at present be quite unanimous in regard to the vigorous measures now being taken, no action has been taken to thwart what is evidently the wish of the majority of the members of the Council as well as the College.

The Chairman of the Infringement Committee, with his worthy colleagues, have been by no means idle, but, once armed with authority, have pushed on the work with great energy and marked success. The correspondence has been of the most voluminous character, and though several attempts were made to bring it in detail before the Council, but a small portion was read—sufficient, however, to show the feeling of country members, and their entire approval of the manner and object of the work and the results accomplished. It is, perhaps, needless to say that as these communications were of a confidential nature the names of the writers were, in all cases withheld.

The fears that were first entertained as to the difficulty of getting information respecting offenders have proved to have no foundation in fact—as is conclusively evidenced by the two or three hundred cases of infringements that the Chairman has already been apprized of. There appears, however, to be a feeling of uncertainty and apprehension that parties interfered with will retaliate by proceeding against druggists for the non-registration of poisons, and no doubt there is just reason for such fear. The Chairman of the Committee therefore advises that the law be strictly conformed to, and that all sales of Paris green, or other poisons, be carefully entered in proper form.

There have, so far, not been any prosecutions for the sale of Paris green, but steps have been taken to have a test case brought on, and probably we shall be able to report by next number. It is gratifying to learn that in a great many towns this illegal trade has been already suppressed by the notices which the Chairman has had inserted in the local papers, or by letters sent by the Chairman or his co-laborers, to illegal vendors. In nearly all cases this course has been attended with satisfactory results, and many druggists who at first complained of offences of this kind have expressed themselves as highly pleased at the quiet but effectual way in which the sales have been stopped. In cases in which a warning of this kind may prove ineffectual the Public Prosecutor has been instructed to notify the party, and if this is disregarded he is to prosecute.

During the half year there have been eight prosecutions—all but one successful—for keeping open shop or assuming the title “druggist,” but on looking at the amount of fines imposed, one cannot fail to be impressed with the insufficiency of the law that allows of so light a penalty for so serious an offence. Twenty



dollars for the first and fifty dollars for subsequent transgressions should be the *lowest* rather than the *highest* fines that could be inflicted, and when the Act is amended this alteration should not be lost sight of.

Another matter that arose out of the report of the Infringement Committee, and of which complaint was made by several correspondents, was that of unregistered branch stores. Instances were given in which four businesses were conducted under one certificate, or under duplicates, for which only one dollar each was paid. On carefully reading over the law, as stated in sections 19, 20 and 23 of the Act, it appeared evident that as a certificate has to be displayed in every place of business, and as such can only be obtained by the annual payment of four dollars, that branch stores must be registered precisely as though they belonged to different individuals. A resolution to this effect was offered and carried unanimously.

It is proposed to continue the work that the Committee has so vigorously inaugurated, and information or complaints may therefore, as before, be sent to Mr. Bray, chairman, Mr. Sanders, Stayner, who has charge of the Central division, or Mr. Gunn, Kingston, who looks after the Eastern district.

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### EXCISE REGULATIONS RESPECTING FUSIL OIL.

The demand for fusil oil, at least in countries where quinine is not manufactured, is not very great, being almost altogether confined to the preparation of burning fluid, and certain aromatic compounds of amyl. During the last year the price has advanced from fifty cents to two dollars per gallon. This prodigious rise has been accounted for by the supposition of a new duty imposed by the Government, but until this month there has been no regulation, whatever, relating to this article.

Distillers have always paid and still pay duty on the crude spirit from the still. This spirit contains the fusil oil, which is not separated until subsequent rectification, when, as the demand has never been at all commensurate with the supply, they have disposed of the oil as a very low price, or allowed it to run to waste. This, though a source of complaint and loss to the rectifier has been well for the manufacturers of amylic compounds, as they have secured their stocks at nominal rates.

An Order in Council passed July 5th, and printed in the *Canada Gazette* of the 22nd, obviates this loss as far as the distiller is concerned, by allowing him a rebate of duty on all fusil oil destroyed, "so as to render its use for any purpose, whatever, impossible." The oil is to be passed directly from the rectifying apparatus into a receiver, closed with certain appliances, and furnished with locks, etc. The contents of this receiver are gauged from time to time by

an officer, samples and strength are taken, and the fusil oil destroyed, a rebate of duty being allowed on the ascertained quantity.

In case it is necessary to retain any of the oil for sale, a duty of one dollar per proof gallon has to be paid, as in the case of alcohol itself.

The specific gravity of fusil oil is about .818—about the same as commercial alcohol of 65 over proof—the duty will, therefore, amount to \$1.65 per gallon.

The justice of this regulation in its application to the distiller is very evident, but why manufacturers—who alone use fusil oil—should be required to pay a duty so exorbitant on an article of so little value that it may be thrown away is a manifest absurdity. Fusil oil is neither a beverage nor a luxury, but solely a necessity in a limited number of manufactures. The only effect of this ridiculous duty is that the manufacture of these amylic compounds is brought to a sudden stop—a result which cannot have been contemplated by a government that has generally shown great care in fostering home industries. We feel sure that this matter will be rectified as soon as the error is pointed out to the Department, and the rebate of duty allowed to the distiller, whether the oil is destroyed or not.

### THE EXAMINATION.

The Semi-annual Examination held during the last week of July, of which a full report is given elsewhere, was remarkable for the small number of candidates in attendance and the very high marks obtained by the students. The attendance was no doubt attributable to the hasty organization of the College, sufficient time not having been allowed for intending students to make their arrangements. There is, however, every prospect that the next examination will make up for any past deficiency. It is to be held, as usual, a week previous to the Council meeting in February next, and will commence on Tuesday, Jan. 30th and continue for four days. Afterwards, the examinations will take place in June and December, so as to be concluded before Dominion and Christmas days, respectively. This will enable students to attend to their studies during the colder months of the year, and will save them some expense in remaining in town during the holidays.

The questions given at the past examination are, according to custom, hereby subjoined.

### CHEMISTRY.

*Examiner*—MR. SHUTTLEWORTH. *Time Allowed*—TWO HOURS.

1. Give tests for the recognition of all the acids embraced in the B. P.
2. State the relation that exists between the atomic weights and specific gravities of gases, and give the law of combination by volume.
3. Exhibit a calculation showing the quantity of pure, dry, carbon-

ate of potassium required to make, ten ounces, by weight, of *Liquor Potassæ*, B. P.

4. State concisely the conditions governing the processes of *solution*, *evaporation* and *crystallization*.
5. What is the general composition of fats and soaps? Give the B. P. preparations consisting wholly or in part of the latter class.
- 6-10. Recognition of specimens and oral examination.

### PHARMACY.

*Examiner*: E. GREGORY. *Time Allowed*: TWO AND A HALF HOURS.

1. Describe the best method of reducing camphor, nux vomica, vanilla, assafoetida, and St. Ignatius bean to powder. Also for granulating zinc and tin.
2. Name ten official preparations containing opium. Give list of ingredients in each, and proportion of opium.
3. Write a formula for the preparation of *syrupus rhei*. State what degree of heat should be used in its preparation, how long it should be exposed to that heat, and what would be the effect of too high a temperature or of prolonged boiling.
4. State what pepsin is. Describe the method of preparation. Give a test for its purity and strength, and say whether an acid or alkaline, an aqueous or spirituous menstruum, is best adapted for its exhibition.
5. How many grains does a fluid ounce of pure water weigh at 60° Fahrenheit? Of rectified spirit? Of proof spirit? Of sulphuric acid? Express the same weights in the metric system. Show method of working one example. (Answer in grams and decimal parts thereof.)
- 6-10. Recognition of specimens and oral examination.

### MATERIA MEDICA.

*Examiner*: WM. S. ROBINSON.

1. Give source and method of production of essential oil of mustard, oil of sweet almonds, oil of bitter almonds.
2. Give source and character of camphor, how it is prepared, and how you would distinguish it from artificial camphor.
3. Give practical process for estimating the alkaloidal strength of cinchona bark.
4. Name probable adulterants of essential oils, and method of detection.
5. Give full Materia Medica report of belladonna and rhubarb.
- 6-10. Oral.

### BOTANY.

*Examiner*: MR. YEOMANS.

1. Define the difference between an annual, biennial, and perennial herb; between an herb and a shrub; between a shrub and a tree. Give a familiar example of each.
2. Enumerate the functions of the root, stem and leaf. Tell clearly the work done by each.

3. Define inflorescence, and mention at least eight different kinds giving the distinguishing characteristics of each.
4. At what period of their growth should the following parts of plants be collected for medicinal use? and give the reason.  
Barks, leaves, flowers, roots.
5. Mention the four types of vegetable growth, and enumerate the distinctive differences of each.
6. Define the terms Suffruticose, Epipetalous, Rhaphides, axis of the flower, Arboreous, Cereal.
- 7-8-9-10. Recognition of specimens and oral examination.

### PRESCRIPTIONS.

*Examiner:* WM. BRYDON.

1. Explain the following terms, and give a medicine of each class:  
Anæsthetics, antemetics, antiparasitics, carminatives, diaphoretics, emollients, irritants, sedatives, sialagogues, styptics.
2. Give the number of drops in a fluid drachm: Tinct. aconite, tinct. opii, tinct. catechu, chloroform, æther sulph., liq. potass. arsenit, liq. opii sed, ol amygdal amara, ol crotonis, ol menth pip.
3. Explain the difference between the English and French system of weights.
4. Write the following prescriptions in Latin, without any abbreviations:
  - ℞ Compound tincture of camphor, one dram; tincture of logwood, one dram; chalk mixture, q. s.,  $\frac{1}{2}$  oz.  
Mix. Send an 8 oz. mixture.  
Direct.: One tablespoonful in water every three or four hours.
  - ℞ Corrosive sublimate,  $\frac{1}{2}$  grain; powdered opium, 1 grain; confection roses, q. s. Make a pill. Send 30.  
Direct.: One pill twice a week at bedtime.

### DISPENSING.

*Examiner:* H. J. ROSE.

FIRST DAY.

For Mr. Smith, Queen's Hotel:

R	Tr. Guaiaci, Syr. Simp., Mist. Acac.      aa. ʒss. Aq. Pur.      ad. ʒiv. M.
Sig.: ʒss. t. d. ante cibum e cyath. lactis.	
Et R	Ol. Crotonis, gtt. ij. ft. pil. H. s. sd. et rep, post hor. un. s. o. s.      Mitte tres.

Mr. Smith's child:

R	Hyd. ox. rubr., gr. iij. Adipis, ʒij. M.
ft. ung. Sig.: Dextro oculo paululum more dictu applic.	
Et. mitte.	
Emp. Lyttæ      1 x 2 in.	

## SECOND DAY.

For Mr. Smith, Queen's Hotel :

R Ol. Terebinth., ʒij.

Mist. Acaciæ, ʒj.

Tr. Benz. Co., ʒiv.

Aq.: ad. ʒiv. M.

Sig.: ʒij. om. hor. ex. ʒij Vini Rubri.

Et R. Ol. Crotonis gtt. j., ft. pil.

mitte ij. Sig.: St. j. stat. et 2nda q. q. nocte.

Mr. Smith's child :

R Ext. Hæmatoxyli, gr. x.

Adipis, ʒij. M. ft. ung.

Sig.: Bis terve quotidie applic.

Et R P. Carbonis Ligni, ʒj.

Zinci Oxyd., gr. x. M.

ft. pulv. Mitte: ij.

St. j. post cibum.

## Correspondence.

## THE SCOTT ACT AS AFFECTING DRUGGISTS.

*To the Editor of the Pharmaceutical Journal.*

DEAR SIR,—Anent "The Scott Act as Affecting Druggists," referred to editorially in the June number of the PHARMACEUTICAL JOURNAL it does not appear that you are aware that it is permissible by the Act for license boards to grant, in towns, more than one license—hence the folly of not giving two.

As in all probability the Dominion Parliament will take some action at its next session, with respect to the liquor law, do you not think it would be wise for the Board of Pharmacy to petition that all registered druggists be on an equality in Ontario?

Owing to the general free trade in liquor where the Scott Act is enacted, or attempted to be enacted, I am told that it does not pay a druggist to take out a license from the license boards as at present constituted in Ontario.

I will not at present enter into the discussion as to whether the Scott Act being the wish of the majority should be enforced, further than by observing that no lover of freedom can contemplate a law so obtained, and so working in this county without the gravest fears for the public safety. To my mind the Dominion government is greatly to blame for allowing men to prey upon each other as they are doing here. It is more akin to feudal times than our advanced civilization. The scales of justice are not evenly balanced when men are heavily fined or imprisoned in one county for what they are licensed to do in another. There is no virtue in Scott Act men in

any way you take them, that should allow them this privilege, and I trust some effort will be made to get the profession to which we belong out of the tyranny.

Excuse me for so troubling you and thanks for your former notice, believe me

Your obedient servant,

Milton, July 20, 1882.

HENRY WATSON.

### BOOK NOTICES.

A COMPENDIUM OF MODERN PHARMACY AND DRUGGISTS' FORMULARY. Second Edition. By WALTER R. KILNER, Springfield, Ill. O. C. St. Clair & Co., 1882.

This is almost purely a representative American publication, containing an extensive collection of formulas relating chiefly to preparations of modern introduction popular on this side of the Atlantic. It is not designed to supplant the older works, as Redwood's edition of Gray's Supplement, or Beasley, but occupies ground of its own, and occupies it very well.

The compiler, who is a pharmacist of Springfield, Ill., makes no pretensions as to the recipes being private, but gives them as the best that he has been able to obtain from all sources, and chiefly from the pharmaceutical literature of the day.

Considerable space is, of course, devoted to Elixirs, three hundred formulas being given in the body of the work, besides many others in the supplements. These represents very well the progress that has been made in this branch of manufacture, and will prove very useful to the druggist. The recipes are generally classified according to the preparations, as Tinctures, Solutions, Fluid Extracts, Infusions, Emulsions, Medicated Wines, Pills, Syrups, Waters, Liniments, Ointments, Plasters, Malt preparations, Medicated Pads, Essences, Eclectic remedies, Syrups for Soda Fountains, Perfumery, Hair, Tooth and Toilet preparatory, Wines & Liquors, Saccharated Extracts, Poisons and their antidotes, Explosive prescriptions, Farrier's preparations, &c., &c. It will be remarked that several of these classes are new, and were it not for such a compilation as that under review, the druggist would have to have at his hand the serial pharmaceutical literature of the day, and would lose much time in searching for any desired information.

As a work of reference Kilner's Formulary will fill a permanent place on the druggist's book-shelf, and will, in time, become indispensable, especially if the quarterly publication of supplements or addenda is continued. Four of these have, so far, been published and bring the work up to February of this year.

The book without the supplement contains about seven hundred pages, is neatly printed, and well bound in calf. The price in the United States is ten dollars, which includes four quarterly parts.

## MARKET REPORT FOR SEPTEMBER.

Trade during August has been satisfactory, though somewhat broken in upon by holidays.

*Opium.*—The reports of a short crop being fully confirmed, prices have advanced fully fifty cents, and the market closes firm. There have been few sales made on speculation, and there is every appearance that any future change will be in the direction of higher prices.

*Quinine.*—An advance was established in the early part of last month followed by a slight reaction. Cables report that Howards have made a large contract with the British Government and are now asking higher prices. In New York German quinine is quoted higher.

*Miscellaneous Drugs.*—Considerable quantities of heavy chemicals have been sold at low prices, but manufacturers are now willing to contract ahead.

The following articles are now reported higher: Cubebs, oil cubebs, cod liver oil, canary seed, hemp seed, cuttle fish bone. Otto of Rose still continues to advance, but other essential oils are generally unchanged.

The demand for Paris green has entirely ceased, the market being altogether cleaned out.

Considerable supplies of Cape aloes have arrived in England, and lower prices are expected. Gum arabics are firmly held. Fenu-greek seed is dearer, the Egyptian supply being cut off. Shellac is without change.

*Spices.*—Prices are generally firm, black pepper having advanced during the month.

*Paints and Oils.*—Whiting, which was locally scarce, is now in better supply. There has been large arrivals of ochres and dry white lead during the month. White lead is advancing in England, but as yet there has been no changes in the price list here.

# Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor not later than the 25th of each month.

## ASSISTANTS WANTED.

J. R. Bond, Schomberg, wants an Assistant with about one years experience.

J. E. McGarvin, Acton, wants an assistant. One having one or two years experience preferred. State age, salary expected. Send photo, if possible, which will be returned.

A. M. Rolls, Chatham, wants a Drug Clerk. One who can speak English and French. From two to four years experience.

## WANTING ENGAGEMENTS.

Pearcy Seacord, Acton, has been in the wholesale and can keep books.

W. Longhurst, Riverside, wants situation in wholesale or retail.

Samuel McHenry, 152 Vanauley St., wants situation as errand boy.

A graduate of the O. C. P. desires a situation. Four years experience. Good references as to character and ability. Address, Druggist, 84 Walton Street, Toronto.

Wanted a situation in Toronto as telegraph operator, druggist, or both during the winter months. Four years experience. Unexceptionable references. Apply Box 20, Florence, Ont.

## BUSINESS NOTES.

A. B. Eadie, formerly manager for J. R. Lee, Queen St., has purchased the business of D. L. Thompson on King St., East.

Shapter & Jeffery have dissolved; Andrew Jeffery continuing.

## BUSINESSES FOR SALE.

Small stock of drugs with shop furniture for sale, cheap. Apply to C. M. Irwin, Arthur, Ont.

Drug store and residence, combined with stock, for sale in the village of Burford, county Brant, on G. W. R. A lucrative practice can be secured. Good roads. Apply to Dr. Chrysler, Burford.

A good business in a western town. Particulars may be learned on application to Elliott & Co.

## BUSINESSES WANTED.

## SITUATIONS VACANT.



DRUGS, MEDICINES, &c.		\$ c.	\$ c.	DRUGS, MEDICINES, &c.—Contd.		\$ c.	\$ c.
Acid, Acetic, fort .....	per lb	0 12	@ 0 14	Gum Arabic Sorts, powdered ..		0 20	0 30
Benzoic, pure .....		0 15	0 30	Assafetida .....		0 20	0 25
Carbolic, cryst., med .....		1 25	1 50	Benzoin .....		0 50	0 80
" com .....		0	0 50	Catechu .....		0 12	0 15
Citric .....		0 80	1 00	" powdered .....		0 20	0 25
Gallic .....		1 60	1 80	Gamboge .....		1 00	1 25
Muriatic .....		0 03	0 06	Guaiacum .....		0 65	1 00
Nitric .....		0 10	0 15	Myrrh .....		0 45	0 85
Oxalic .....		0 18	0 19	Sang Dragon .....		0 75	0 45
Salicylic .....		2 40	2 75	Scammony, powdered .....		4 90	5 00
Sulphuric .....		0 02	0 05	" Virg. .....		12 50	14 00
Tannic .....		1 25	1 30	Shellac, Orange .....		0 43	0 60
Tartaric, pulv .....		0 65	0 75	Shellac, liver .....		0 40	0 75
Ammon, carb. ....		0 21	0 24	Storax .....		0 65	0 50
Bromide .....		0 75	0 90	Tragacanth, flake .....		0 65	1 35
Iodide .....		5 00	0 00	" common .....		0 25	0 65
Liquor, 880 .....		0 2	0 22	Galls .....		0 25	0 28
Muriate .....		0 14	0 15	Gelatine, Cox's 6d. ....		1 20	1 25
Æther, Nitrous .....		0 27	0 45	" French .....		0 50	0 80
Sulphuric .....		0 50	0 65	Glycerine, common crude .....		0 25	0 28
Antim. Nig., pulv .....		0 15	0 17	" 30° .....		0 40	0 45
Tart .....		0 55	0 60	Prices .....		0 00	0 00
Alcohol, 95 per ct., bbl ..	Cash	2 75	3 0	Honey, Canada, best .....		0 15	0 17
Arrowroot, Jamaica .....		0 14	0 22	Iron, Carb. Precip. ....		0 16	0 20
Bermuda .....		0 45	0 65	Citrate Ammon .....		0 95	1 00
Alum .....		0 02	0 03	" & Quinine, oz. ....		0 45	1 10
Balsam, Canada .....		0 45	0 50	" & Strychine .....		0 18	0 20
Copaiba .....		0 90	1 1	Perchloride solution .....		0 16	0 20
Tolu .....		1 00	1 25	Sulphate, pure .....		0 06	0 10
Bark, Bayberry, pulv. ....		0 18	0 20	Iodine, commerc. al. ....		7 50	2 72
Canella .....		0 12	0 14	Resublimed .....		3 50	3 75
" pulv. ....		0 20	0 22	Jalapin .....	oz	0 75	1 50
Peruvian, yel. pulv. ....		0 25	0 50	Kreosote .....	lbs	0 75	3 00
" red " .....		1 60	2 40	Leaves, Buchu .....		0 20	0 32
Prickly Ash .....		0 55	0 58	Belladonna .....		0 30	0 33
Slippery Elm, grd. bulk ..		0 18	0 25	Foxglove .....		0 27	0 38
flour, packets .....		0 28	0 34	Henbane .....		0 25	0 25
Sassafras .....		0 12	0 12	Morehound .....		0 15	0 25
Wild Cherry .....		0 10	0 12	Lobelia .....		0 20	0 25
Berries, Cubebs, ground ..		0 50	0 60	" pulv. ....		0 40	0 45
Juniper .....		0 06	0 10	Senna, Alex .....		0 23	0 25
Beans, Tonquin .....		2 40	3 60	" E. I. ....		0 10	0 14
Vanilla .....		10 00	15 00	" Tinneville .....		0 13	0 23
Bismuth, Trisnit. ....		2 50	2 60	Uva Ursi .....		0 15	0 17
Carb. ....		2 60	2 70	Lime Chloride .....		0 02	0 05
liquor .....		0 35	0 55	Lime, Hypophosphite .....		2 00	2 25
Borax, refined .....		0 19	0 2	Sulphite .....		0 10	0 11
Camphor, American .....		0 55	0 37	Lead, Acetate .....		0 14	0 17
Engl sh .....		0 48	0 60	" Brown .....		0 09	0 10
Cantharides .....		1 50	1 6	Leptandrin .....	oz.	0 0	0 75
Powdered .....		1 6	1 75	Lye, Concentrated .....	doz.	1 00	1 25
Chiretta .....		0 40	0 50	Liquorice, Solazzi .....	lb.	0 50	0 55
Chloroform, Pure .....		1 15	1 3	Marcu ci .....		0 35	0 37
" D. & F .....		1 90	2 03	Other brands .....		0 14	0 35
" German .....		0 75	0 90	Magnesia, Carb. ....	1 oz.	0 22	0 25
Chloral hydrate .....		1 40	1 6	" 4 oz. ....		0 19	0 22
Cinchonine, Muriate .....		0 4	0 48	Calcined .....	lb.	0 60	0 70
" Sulphate .....		0 34	0 42	Citrate .....	gran.	0 40	0 75
Cinchonidia, Sulphate .....		1 0	1 0	Mercury .....	lb.	0 70	0 75
Cochineal, S. G. ....		0 50	0 60	Ammoniated .....		1 25	1 30
Black .....		0 55	0 65	Bichlor .....		0 80	0 90
Collodion .....		0 75	0 90	Biniodide .....		4 00	5 0
Cuttle-Fish Bone .....		0 4	0 50	Chloride .....		0 90	1 10
Ergot .....		0 60	0 80	O. Chalk .....		0 40	0 70
Extract Belladonna .....		3 10	3 0	Nit. Oxyd .....		1 10	1 30
Colocynth, Co. ....		1 25	1 75	Morphia Acet .....	oz	2 85	2 65
Gentian .....		0 50	0 60	Mur. ....		2 75	2 90
Hemlock, Ang .....		1 00	1 05	Sulph. ....		3 00	3 10
Henbane, ....		3 00	3 50	Musk, pure grain .....	oz	34 00	.....
Jalap .....		2 50	5 00	Canton .....		0 60	0 70
Mandrake .....		1 75	2 00	Moss, Irish .....		0 08	0 10
Nux Vom. ....oz		0 20	0 30	Oil, Almonds, sweet. ....	lb.	0 60	0 65
Opium .....	oz	1 00	0 00	" bitter .....		12 00	13 00
Rhubarb .....	lb	4 00	5 00	Aniseed .....		3 75	4 00
Sarsap. Hon. Co. ....		1 00	1 20	Bergamot, super .....		3 80	4 50
" Jam. Co. ....		4 00	4 50	Caraway .....		3 20	3 50
Taraxacum, Ang .....		0 65	0 80	Cassia .....		1 50	2 00
Flowers, Arnica .....		0 25	0 28	Castor, E. I. ....		0 11	0 14
Chamomile .....		0 20	0 25	Oedar .....		0 50	0 55
Fuller's Earth .....		0 03	0 04	Citronella .....		1 80	2 50
Gum, Aloes, Barb .....		0 30	0 70	Cloves, Ang .....		3 00	3 25
" Cape .....		0 20	0 25	Cod Liver, Nor., Imp. Gal		3 25	3 50
" powdered ..		0 23	0 25	" N. F. ....		1 50	0 00
" Socot .....		0 54	0 75	Oroton .....	lb	1 85	2 00
" pulv .....		0 62	0 80	Hemlock .....		0 45	0 90
Arabic. Select .....		0 40	0 45	Juniper Wood .....		0 65	0 00
" powdered ..		0 45	0 5	Berries .....		0 00	2 00
" sorts .....		0 18	0 20	Lavand, Ang. ....oz.		4 50	5 00

DRUGS, MEDICINES, &c.—Cont'd.		
Oil, Lavand, Exotic.....lb.	1 40	3 50
Lemon.....	3 50	4 00
Orange.....	2 40	2 60
Neroli, super.....oz.	3 50	5 50
Origanum.....lb.	0 65	0 85
Peppermint Ang.....	11 00	15 00
" Amer.....	4 00	5 00
Rose, Virgin.....	12 00	12 50
" good.....	5 90	6 50
Santal Ang.....	9 00	9 75
Sassafras.....	0 65	0 80
Verbena.....	1 75	2 00
Wintergreen.....	4 00	4 50
Wormwood, pure.....	9 50	0 00
Ointment, blue.....	0 55	0 60
Opium, Turkey.....	5 10	5 50
pulp.....	7 70	9 00
Orange Peel, opt.....lb.	0 35	0 40
" good.....	0 16	0 25
Pill, Blue, Mass.....	0 55	0 75
Potas., Bi-chrom.....	0 16	0 20
Bi-tart.....	0 35	0 40
Bromide.....	0 45	0 55
Cyanide.....	0 52	0 55
Carbonate.....	0 13	0 15
Chlorate.....	0 22	0 25
Iodide.....	2 15	2 25
Nitrate.....	8 75	11 00
Sulphuret.....	0 25	0 35
Pepsin, Boudault's.....oz.	1 20	1 20
Morson's.....oz.	0 90	1 00
Phosphorus.....	0 90	1 05
Podophyllin.....	0 45	0 50
Quinine, Howard's.....	2 65	2 75
" Gera an.....	2 50	2 60
Root, Colombo.....lb.	0 20	0 40
Curcuma, grd.....	0 11	0 15
Elecampane.....	0 16	0 17
Gentian.....	0 07	0 10
" pulp.....	0 12	0 20
Hellebore, pulp.....	0 17	0 18
Ipecac.....	1 75	0 18
Jalap, Vera Cruz.....	0 38	0 45
Liquorice, select.....	0 13	0 15
" powdered.....	0 13	0 15
Mandrake.....	0 12	0 20
Orris.....	0 18	0 25
Rhubarb, Turkey.....	2 25	2 40
" E. I.....	0 85	0 95
" pulp.....	1 00	1 20
Sarsap., Hond.....	0 45	0 65
" Jam.....	0 60	0 65
Squills.....	0 16	0 20
Senega.....	0 95	1 00
Spigelia.....	0 51	0 65
Sal., Epsom.....	0 62	0 02½
Rochelle.....	0 35	0 38
Soda.....	1 21	2 50
Seed, Anise.....	0 12	0 15
Canary.....	6 00	7 00
Cardamon.....	3 00	3 25
Fenugreek, g'd.....	0 08	0 09
Flax, O. t. Cash 100 bs.....	3 25	0 00
" imported.....	3 00	3 25
Hemp.....	0 06	0 07
Mustard, white.....	0 10	0 15
Saffron, American.....	0 90	1 00
Spanish.....	18 00	0 00
Santonine.....	6 00	8 00
Sago.....	0 08	0 09
Silver, Nitrate.....Cash	13 20	14 00
Soap, Castile, mottled.....	0 10	0 11½
Soda, Ash.....	0 02½	0 05
Bicarb. Newcastle, Keg.....	3 25	3 75
" Howard's.....lb.	0 16	0 16
Caustic.....	0 03	0 05
Spirits Ammon., arom.....	0 40	0 45
Strychnine, Crystals.....oz	1 75	2 00
Sulphur, Precip.....lb.	0 15	0 16
Sublimed.....	0 03½	0 03½
Roll.....	0 02½	0 03½
Verdigris.....	0 50	0 55
Wax, White, pure.....	0 65	0 75
Zinc, Chloride.....oz	0 10	0 15
Sulphate, pure.....lb	0 09	0 12
" common.....	0 06	0 10

DYESTUFFS.

Annatto.....	0 35 @	0 60
Aniline, Magenta, cryst.....	2 25	2 50

DYESTUFFS—Continued.

Argols, ground.....	0 15	0 33
Blue Vitriol, pure.....	0 06½	0 08
Camwood.....	0 05½	0 08
Coppers, Green.....	0 01½	0 02
Cudbear.....	0 15	0 30
Fustic, Cuban.....	0 02½	0 03
Indigo.....	0 75	1 00
Extract.....	0 25	2 36
Japonica.....	0 06½	0 08
Lacdy, powdered.....	0 33	0 38
Logwood, Camp.....	0 02½	0 03
" Extract.....	0 9	0 12
" 1 lb. bxs.....	0 15½	—
" ¼ lb.....	0 14½	—
Madder, beat Dutch.....	0 12½	0 14
Quercitron.....	0 03	0 05
Sumac.....	0 06	0 07
Tin, Muriate.....	0 10½	0 12½
Redwood.....	0 03½	0 04
SPICES.		
Allspice.....	0 20 @	0 23
Cassia.....	0 20	0 25
Cloves.....	0 40	0 50
Cayenne.....	0 33	0 37
Ginger, E. I.....	0 12	0 14
Jam.....	0 27	0 30
Mace.....	0 85	1 00
Mustard, com.....	0 20	0 25
Nutmegs.....	0 95	1 00
Pepper, Black.....	0 18	0 20
White.....	0 25	0 26
PAINTS, DRY.		
Black, Lamp, com.....	0 08 @	0 10
" refined.....	0 18	0 25
Blue, Celestial.....	0 09	0 12
Prussian.....	0 65	0 75
Brown, Vandyke.....	0 05	0 06
Chalk, White.....	0 01	0 01½
Green, Brunswick.....	0 07	0 10
Chrome.....	0 16	0 25
Paris.....	0 22	0 24
Magnesia.....	0 15	0 20
Litharge.....	0 07	0 08
Red Lead.....	0 05½	0 07
Venetian.....	0 02½	0 03
Sienna, B. & G.....	0 07	0 08
Umber.....	0 07	0 10
Vermillion, English.....	0 90	1 00
American.....	0 20	0 22
Whiting.....100 bs	0 85	1 00
White Lead, dry, gen.....lb.	0 06½	7 00
" No. 1.....	0 05½	6 00
Yellow Chrome.....	0 09	0 15
" Ochre.....	0 02	0 03
Zinc White, Star.....	0 06½	0 11
COLORS, IN OIL.		
Blue Paint.....	0 12 @	0 15
Fire Proof Paint.....	0 06	0 08
Green, Paris.....	0 30	0 37½
Red, Venetian.....	0 07	0 10
Patent Dryers, 1 lb tins.....	0 10	0 12
Putty.....	0 03	0 03½
Yellow Ochre.....	0 08	0 12
White Lead, gen. 25 lb. tins.....	1 80	2 00
" No. 1.....	1 60	1 75
" No. 2.....less 7½pc	1 40	1 50
" No. 3.....	1 20	1 25
White Zinc, Snow.....	2 25	2 35
NAVAL STORES.		
Black Pitch.....	3 50 @	4 00
Rosin, Strained.....lb	4 00	4 00
Clear, pale.....	5 50	6 50
Spirits Turpentine Imp.Gall.....	0 88	0 80
Tar Wood.....	4 50	5 00
OILS.		
Cod Imp. Gall.....	0 65 @	0 70
Lard, extra.....	1 55	1 10
No. 1.....	0 85	0 90
Linseed, Raw per gals.....	0 72	0 75
Boiled.....	0 76	0 80
Neats-foot.....	1 20	1 20
Olive, Common, Imp. Gall.....	1 05	1 45
Salad.....	2 10	2 20
" Pints, cases.....	4 00	4 20
" Quarts.....	3 25	3 50
Seal Oil, Pale, Imp. Gal.....	0 80	0 85
Union Salad.....	1 10	1 20
Sperm, genuine.....	2 25	2 40

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## MANUFACTURE OF LACTIC ACID.\*

BY CHAS. E. AVERY.

When milk turns sour spontaneously, the sugar of milk which it contains is converted into lactic acid, and Scheele, in 1780, first extracted lactic acid from sour milk.

Braconnet found the same acid in rice left under water to ferment, also in the juice of beet-root, which, after having undergone viscous fermentation, became sour and yielded lactic acid. He also found the acid in products of fermentation of many other vegetable infusions.

The same acid has been found in the sour water of starch factories, and in the well-known fermented cabbage of sauerkraut.

By lactic fermentation is understood the transformation of certain sugars, such as sugar of milk and glucose, into a syrupy acid, soluble in water, under the influence of a living being classed by the eminent French chemist and microscopist, Pasteur, among the bacteria.

Messrs. Frémy and Boutron, Pelouze and Gelis, ascertained the best conditions for the production of lactic acid, and found it, they say, to require the aid of nitrogenous albuminoid matter in a state of decomposition, and for its continuance that the acidity should be kept down by neutralization. For this purpose they used oxide of zinc, carbonate of soda, or, as I prefer, the carbonate of lime, that is to say, whiting or marble dust.

Pasteur brought out the idea that the albuminoid matter was non-essential, that it could be substituted by inorganic salts, and that the real cause of the change was not decomposing albuminoids but a living ferment—establishing this latter fact, which before was a conjecture.

It is substantially here that I depart from the beaten track. I find albuminoid matter, though not, scientifically speaking, essen-

\*From the Drug News,

tial, is essential, in a technical point of view. Moreover, it is not essential nor desirable that there should be decomposing albuminoids. I prefer them as fresh and free from putrefaction as possible. As I have no putrefaction in my solutions, the manufacture is no longer a nuisance; the odour with a pure ferment is even fragrant.

To obtain this fresh albuminoid matter at no further expense, and in large quantity, I leave in the glucose solution made from the corn meal the albuminoid residue. And from this substitution I obtain the advantage of cheapness, the advantage of healthfulness, a crude product free from putrefaction, and hence more easily purified; and, lastly, the fermentation takes place in three or four days, instead of requiring ten days to a month, as by other processes.

Bensch purifies his lactate of lime by extraction with water, filtration, recrystallization, the details at present being non-essential. The only thing worth mention is that he was able to purify his crude material. It will be seen that cane sugar is the source of his lactic acid, costing to start with eight or ten cents per pound for any article not too dark and impure. To this sour milk and cheese are added, further increasing the expense, and the time required is a fortnight.

Considering the variability of the process, its unsavory nature and products, and the expense, it is not surprising lactic acid and lactates have received little attention.

I find it is still a common impression among chemists that in the change of starch into glucose by the acid treatment, the transformation is very incomplete; that much of the starch remains as dextrine. This is not the case. By suitable precautions nearly all the starch should turn to glucose, and that this can be accomplished is shown by testing the solutions and residues with iodine. Neither starch nor soluble starch is shown. Then by testing the solutions with six times their volume of alcohol, the substantial absence of dextrine may be shown.

Since we have some 70 per cent. of starch sugar in corn, and this converted into glucose will, by assimilation with water, increase its weight some ten per cent., we have as the theoretical yield of acid 77 per cent. Now, Bensch found 9 kilos of cane sugar to yield  $10\frac{1}{2}$  kilos of neutral lactate of lime, and it is not surprising that a yield of 82 to 85 per cent. of neutral lactate has been found from 70 per cent. of starch, working by my process.

The process I adopt resolves itself into three portions: 1st, manufacture of solution for fermentation; 2nd, the fermentation; 3rd, the purification; and, lastly, there is the use of the product itself as a separate consideration.

I mix 80 to 160 pounds of oil of vitriol with 2000 pounds of cold water, and stir in 2000 pounds ground maize; this corn meal may

be from inferior corn, from corn more or less heated, soured, or otherwise changed. The average price of corn of good quality here is about one cent per pound, and much less in the West. Inferior qualities are of less cost. The vitriol can be bought at  $1\frac{1}{2}$  cent per pound by the single carboy, and would cost much less if chamber acid were used and made on the spot.

I let the meal mixture stand over night, and next morning add in portions 2000 pounds of boiling water. After boiling until the tests are satisfactory, I run the hot mixture into the fermentation tank, and neutralize with 1000 pounds carbonate of lime, stirring well. The carbonate of lime is of course in large excess. I then add 4000 pounds cold water, and a variable amount of lactic ferment; 1 or 2 per cent. seems to answer well, although a larger quantity induces fermentation more speedily, saving perhaps half a day, but less will suffice.

In a day's time the most vigorous action ensues, the carbonic acid released from the carbonate of lime escaping in large bubbles, giving the impression that the liquid is boiling. In three or four day's time, with good lactic yeast, the mass sets into crystals of lactate of lime, resembling thick mortar. I then dissolve the lactate in hot water, filter it, crystallize, press, and purify, much as in other processes, with two alterations, however. I use animal charcoal to remove odour and colour, and after acidulation, distil off the butyric acid that has been formed. By more vigorous precautions in the fermentation, I expect soon to be rid altogether of the butyric ferment, and had, indeed, already greatly reduced it, when a series of mishaps stopped for a time further progress.

From experimental results already obtained on the small scale, I have reason to believe that I can reduce the waste and cost of purification, especially in the direction of animal charcoal, and experiments will speedily be resumed in this direction. I am much assisted in this search by the comparatively clean, pure, crude material with which I start, unlike the foul mass obtained by other processes of practical value. As regards the healthfulness of lactic acid there can be no doubt. Articles containing it have been sought out as food by the human race all over the world. Sour milk, butter milk, and sauerkraut are well known to be wholesome. Their reputation the world over is good, and they are used by labourers and peasantry as regular articles of diet. If there were any doubts, these would be dispelled when I state that lactic acid is present in the flesh itself, and in the mother's milk; that lactic acid is an active agent in the digestion of food in the stomach, and a constituent of the gastric juice. For this reason it is given medicinally for the cure of dyspepsia, as in the well-known preparation of lactopepsine.

As to the value of lactic acid and acid lactates in raising bread, as substitutes for cream of tartar, there can be no question,

for sour milk always has raised bread, and made good bread, and cream of tartar is a substitute for lactic acid rather than lactic acid a substitute for it. At present prices of milk the cost is greatly reduced. The corn is not fed to the cow partly to be wasted in maintaining heat and life, and partly to be returned as fat and decomposed sugar; but by a simple change turns almost completely to lactic acid. In one respect, however, I think an advantage may be fairly claimed for the acid lactate of lime over cream of tartar, namely, it will be hard for any cook, no matter how careless, to make either sour bread or alkaline bread, and every cook has such failures with cream of tartar. In cream of tartar, or acid tartrate of potash, the acid molecule reacts on the saleratus to free the gas; unless the exact proportions be hit and the mixture be complete, the bread is alkaline wholly or in spots if the saleratus be in excess, and sour if the acid tartrate be in excess.

The acid lactate is a permanent salt, not readily changed to butyrate; not deliquescent; not too gum-like to resist powdering.

In Miller and other works of good standing it is stated the raw corn meal under like conditions had but partly changed to lactic acid in forty days. Technically speaking, corn meal cannot furnish lactic acid unless the starch be first transformed. Nor will it then give lactic acid in quantity unless the albuminoid matter be either added or left in the presence of the nitrogenous phosphatic salts, if the neutralizer of the ferment is not a fulfilment of all the conditions for large and varied yield; we must at present have albuminoid matter present. It has been fully shown that it is not essential that this albuminoid should be rank or putrid, but that better and quicker results were obtained with fresh vegetable albuminoids than with stale animal albuminoids. I have improved the purification by introduction of animal charcoal and distillation, and have made the operations inoffensive. With regard to cheapness, little needs to be said. With a yield of lactic acid equalling 50 per cent. of the weight of corn employed, with meal at 1 cent per pound, chalk or whiting at  $\frac{7}{8}$  of a cent, and sulphuric acid at  $1\frac{1}{2}$  cent, coal being assumed at \$6 per ton, the cost of materials for 1 pound of lactic acid is about  $4\frac{1}{2}$  cents.

By shrewd location of the factory, and good buying in large quantities, these expenses may be largely reduced.

The operations of manufacture are not unlike those of the sugar refinery, and those are known not to be excessive.

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### IMPURITIES IN GLYCERINE.

Under the title of "Adulteration of Glycerine," F. Jean contributes an article to the *Journal de Pharmacie d'Alsace-Lorraine*, in which he considers not merely adulterations intentionally added,

but impurities due to carelessness in its manufacture or purification. Among them are oxide of lead, lime, and butyric acid. French perfumers and manufacturers of cosmetics test their glycerine with nitrate of silver. If no turbidity or change of color takes place in 24 hours, it is considered good.

The chloroform test for glycerine consists in mixing equal volumes of chloroform and glycerine, shaking thoroughly and then letting them stand. The upper stratum is pure glycerine, while the lower one is chloroform containing all the impurities. If there were no impurities in the glycerine the chloroform remains unchanged, otherwise there will be a turbid layer just beneath the glycerine.

On adding a few drops of dilute sulphuric acid to a mixture of equal parts of glycerine and distilled water, and then a little alcohol, the presence of lime or lead will be shown by a white precipitate. The latter is recognized by sulphydric acid, which turns the precipitate black.

Butyric acid is detected by mixing the glycerine with absolute alcohol and sulphuric acid of 66° B. On gently heating the mixture the butyric ether is easily recognized by its agreeable odor.

Formic and oxalic acids are also found in glycerine, impurities which are of special importance to pharmacists.

They are detected as follows: Equal volumes of glycerine and sulphuric acid, specific gravity 1.83, are mixed together. Pure glycerine does not give off any carbonic oxide gas, but if either of the acids mentioned is present, an evolution of that gas will be observed. To decide whether both acids are present, and if not which one, some alcohol of 40° B. and one drop of sulphuric acid are added, and then gently heated. Formic ether (used in making essence of peaches) will be recognized at once by its characteristic odor, and proves the presence of formic acid. To another sample of the glycerine add a little solution of chloride of calcium (free from carbonate), when it will give a precipitate of oxalate of lime, if oxalic acid is present.

Sugar, glucose, dextrine, and gum are often used as intentional adulterations of glycerine, and are tested for as follows: The glycerine is mixed with 150 or 200 drops of distilled water, and 3 or 4 centigrammes of molybdate of ammonia is added, and one drop of pure nitric acid. It is boiled about 30 seconds. If sugar or dextrine is present, the mixture will be blue.

Glycerine adulterated with cane sugar or syrup acquires a brownish black color when boiled with sulphuric acid. Glucose is detected by boiling it with caustic soda, which turns it brown.

If detected qualitatively, the quantity may be estimated by the following method: 5 grammes of glycerine are weighed out and mixed with 5 c. c. of distilled water. It is boiled in a little

flask, with Barreswil's alkaline solution of tartrate of copper. The suboxide of copper is precipitated, and the precipitate dissolved again in hydrochloric acid. An excess of ammonia is added, and it is poured into a vessel containing an excess of nitrate of silver. A precipitate of metallic silver is formed and filtered out. It is washed with warm water and ammonia, calcined at a red heat, and weighed; 109.6 parts of metallic silver represent 100 of glucose.

If cane sugar or dextrine are found, it is boiled for half an hour with acidified water to convert these substances into glucose.

If none of these impurities are present the amount of water is found by Vogel's well-known method.—*Druggists' Bulletin*.

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### BRONZE GILDING.

Wm. Brown, the well-known painter of circus chariots, describes in the *Coach Painter* a good practical process for fine gilding with bronze powder. It may be useful to pharmacists wishing to improve the appearance of their fixtures by the judicious touching up of some of the prominent parts. He says:

"First of all the size must be properly prepared; if it be 'oily' or too slow in setting or hardening, the bronze powder will be 'drowned,' that is, it will sink under the size and all its impurities will cover the surface, causing it to appear muddy or dark. Quick size is therefore the best, and it may be made by mixing any good rubbing varnish with a little japan, say two spoonfuls of varnish and one spoonful of japan to a sufficient quantity of chrome yellow (dry) to form a semi-transparent paint; add a few drops of turpentine to cause it to flow freely from the pencil.

"The next in order is the bronze; a cheap, coarse quality of bronze should never be used, as it is not only poor economy, but fine work cannot be done with it. The best bronze is not required on ordinary work—a good medium quality of deep gold, costing about sixty cents per ounce, will give excellent results. It may be tested on the finger-nail as to its fineness, and any that will not readily adhere and which rolls off in fine grains, should be avoided, for the fine powder will cover five times as much surface and make a good job. The size and the bronze being at hand, the surface, if a wagon or car panel, should be nicely rubbed with pumice stone and washed clean, then, with a pounce-bag filled with whiting, go over all parts to be gilded or lettered, striped, etc., and have a good film of whiting dust thereon to prevent the bronze from sticking to any part not sized. Next draw the stripes, letters, or whatever with the size, being sure not to put the size on too heavy to cause 'fat edges.' When the size is very nearly dry (it should be a little



drier than the size for gold leaf), rub the bronze on plentifully, using a piece of velvet, plush, or chamois rolled up into a sort of puff-bag, as a rubber. As soon as this is done, wash all nicely with clean water and dry off. Then (and this is one of the most particular features in making a brilliant and durable job) run over all the gilded parts with a pencil dipped in white spirit copal varnish, or in French shellac varnish, either of which will dry in a few minutes, and thus you seal up the gold bronze from the action of the varnish with which the whole job is to be coated, and particularly when English varnish is used; for there is an acid in the varnish which produces verdigris, and that is what turns the bronze green. The spirit varnish protects the bronze from this acid, and also binds it to the size so that when varnishing none of the powder will be dragged off to disfigure the ground. Follow these directions and you may be able to use bronze in place of leaf on many jobs with the assurance that 'nobody can tell the difference.'—*Druggists' Circular*.

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## SACCHARATE OF COFFEE.\*

BY CARLO PAVESI, OF MORTARA.

The author describes a new method of concentrating and administering the valued and useful constituents of coffee, as follows:

Roasted coffee (best).....	1 part.
Refined sugar .....	2 parts.
Warm water .....	q. s.

The coffee is exhausted, in a convenient displacement apparatus, of all its soluble constituents, by means of the warm water; the clear, brown percolate is mixed with the sugar, and evaporated, at a temperature not exceeding 50° C. (122° F.), in a suitable apparatus, to dryness. Finally, it is reduced to powder, and kept in well-closed vessels.

The evaporating vessels should be shallow, so as to present a large surface of liquid to the air; or, better still, a vacuum-apparatus may be used.

The product is a brownish powder, of a coffee odor, a sweet and slightly bitter, very agreeable taste, and very soluble in cold water. Dissolved in boiling water, it yields a very fine cup of coffee.

If made into a paste with tragacanth, it may be formed in tablets or troches—a very convenient form of use.

\*Degli oleosaccari e specialmente del saccarato di Caffè. *Annali di Chim.*, 1882, 225, in *New Remedies*.

# SOME NEW PREPARATIONS OF THE HYPOPHOSPHITES CONTAINING IRON.\*

BY C. LEWIS DEIHL.

Several years ago I was requested by a physician to prepare for one of his patients a pleasant combination of the hypophosphites of iron and quinia, if possible in the form of an elixir, and in as nearly a neutral condition as practicable. After some experiments I succeeded in making a very acceptable preparation—in fact, an elegant elixir, containing in each fluid drachm one grain of each of the salts named, in perfectly neutral combination. The successful production of this preparation led me to apply the chemical facts involved to the production of other combinations of hypophosphites containing iron, some of which have been received with decided favor by the physicians whose attention I have been able to invite to them. Thinking that possibly these preparations may merit more extended use, and that at all events they are interesting combinations, I have concluded to make known their formulas and the methods of their preparation in the following.

So much has been written about the hypophosphites, and there is so much diversity of opinion as to the best mode of their exhibition, as well as to their therapeutic value, that I deem it necessary only to briefly note the points that seem to make it desirable that preparations of hypophosphites containing iron should be prepared as below recommended. The preparation of hypophosphites which has found most favor in this country is the so-called "Churchill's syrup of the hypophosphites." Whether Dr. Churchill's original syrup was one containing only hypophosphite of calcium, as seems to me probable, or whether it conformed to one or the other of the formulas for "syrup of the hypophosphites" proposed by Mr. W. S. Thompson, of Baltimore, and by the late Prof. Wm. Proctor, Jr.,† I am unable to decide, but this much is certain, that these two formulas have been authoritative for American pharmacists, though it by no means follows that they have been uniformly followed. The two formulas differ essentially only in that Mr. Thompson directs the *ferrous* salt, while Prof. Proctor's formula requires *ferric* hypophosphite. The latter produces a permanent and generally acceptable preparation, the only objection being the presence of free hypophosphorous acid. The preparation of Mr. Thompson, which also contains free hypophosphorous acid, is preferred by some because it contains the iron in the condition of ferrous salt; but the latter is easily changed, and the preparation is therefore not so satisfactory.

\*Read at the meeting of the Kentucky Pharmaceutical Association.

†Parrish's Pharmacy, third edition, 1864, pp. 429, 430.

In the preparations prepared by me the ferric salt is used, as in Prof. Proctor's formula, but instead of effecting its solution by means of hypophosphorus acid, citrate of potassium is employed, a handsome greenish and perfectly neutral solution being formed. The quantity of the citrate necessary for this purpose is about equal to that of the dry ferric salt, but the latter is preferably prepared freshly and dissolved while still moist. The citrates of ammonia or sodium would answer the purpose of solvent as well as the potassium salt, which was selected only because it is always at hand, and because the ammonium and sodium salts are not known to possess any advantage. For the preparation of the ferric hypophosphite any of the soluble salts of hypophosphorus acid will answer, but I have selected the hypophosphite of calcium, with ferric chloride as precipitant, for the reason that it is the salt most commonly kept in quantities, and because it is the cheapest. Certain precautions must, however, be observed to secure the perfect precipitation of ferric hypophosphite, for if too much or an insufficient quantity of ferric chloride is added, a portion of hypophosphite remains in solution and is lost during the washing of the precipitate, which must be done with the smallest possible quantity of water. It may be well, therefore, to give particular consideration to the

*Preparation of the Ferric Hypophosphite.*—Dissolve one hundred and fifty grains of the hypophosphite of calcium in four fluid ounces of distilled water, if necessary, by the aid of gentle heat, and filter the solution. To the cold solution carefully add solution of ferric chloride so long as a precipitate is produced. Collect the precipitate upon a close muslin cloth, drain well, and express firmly; then pour upon the magma one fluid ounce of distilled water, and express again. The magma may then at once be dissolved by the aid of citrate of potassium.

When precipitating this compound it is best to add the ferric chloride in small portions at a time and to stir the liquid constantly. Then allow the precipitate to subside, so that the supernatant liquid may become clear before adding the next portion of ferric chloride. Toward the last a small portion of the clear supernatant liquid is removed after each addition and tested with diluted ferric chloride solution, allowing it to stand for several minutes if no immediate turbidity occurs. If the liquid remains clear after several minutes' standing, the precipitation may be regarded as complete, and the straining and washing may go on as above directed. The product is equal to one hundred and twenty-eight grains of dry ferric hypophosphite.

Having thus explicitly given the method of obtaining the magma of ferric hypophosphite, these directions do not need repetition in the formulas for the different preparations given below. As regards its solution by the aid of citrate of potassium,

it is only necessary to triturate the magma with the specified quantity of the latter, when partial solution will occur, and complete solution follows upon the addition of water, or of the solution of the other hypophosphites.

I. *Improved Syrup of the Hypophosphites with Iron.*—Take of hypophoshite of calcium, two hundred and fifty-six grains; hypophosphite of sodium, one hundred and ninety-two grains; hypophosphite of potassium, one hundred and twenty-eight grains; ferric hypophosphite (represented in the magma obtained from one hundred and twenty-eight grains of hypophosphite of calcium), ninety-six grains; citrate of potassium, ninety-six grains; white sugar, thirteen troy ounces; orange-flower water, one fluid ounce; distilled water, a sufficiency. Dissolve the calcium, sodium, and potassium hypophosphites in seven fluid ounces of the water, if necessary, by the aid of a gentle heat, and filter the solution. Triturate the magma of the ferric hypophosphite with the citrate of potassium, add the solution of the other hypophosphites, and when complete solution is effected, the orange-flower water and sufficient distilled water to make the whole measure nine fluid ounces. In this dissolve the white sugar, without heat, and filter the resulting syrup through paper. A fluid drachm of this syrup contains two grains of the calcium, a grain and a half of the sodium, one grain of the potassium, and three fourths of a grain of the ferric hypophosphite.

II. *Syrup of Hypophosphite of Iron.*—Dissolve one hundred and twenty-eight grains of ferric hypophosphite (represented in the magma from one hundred and fifty grains of hypophosphite of calcium), by the aid of one hundred and twenty-eight grains of citrate of potassium, in one fluid ounce of orange-flower water, and sufficient distilled water to make the solution measure nine fluid ounces. In this dissolve thirteen troy ounces of white sugar, and filter the resulting syrup. One fluid drachm of this syrup contains one grain of the ferric hypophosphite.

III. *Elixir of Hypophosphite of Iron.*—In the nine fluid ounces of solution of ferric hypophosphite, obtained as above (II.), dissolve four troy ounces of white sugar, and add five fluid ounces of alcohol, in which eight drops of fresh oil of orange have been previously dissolved; then filter. The strength of this is the same as that of the syrup, over which it probably possesses no advantage.

IV. *Elixir of Hypophosphite of Iron and Quinine.*—Make a solution of ferric hypophosphite, as under II., but bring it only to the measure of seven fluid ounces, and dissolve four troy ounces of white sugar in it. Triturate one hundred and twenty-eight grains of sulphate of quinine with five fluid ounces of strong alcohol, add a solution of thirty grains of hypophosphite of calcium in one-half fluid ounce of distilled water, and shake the mixture occasionally

for an hour. Then filter, and wash the filter with sufficiently strong alcohol to make the filtrate measure seven fluid ounces. In this dissolve eight drops of fresh oil of orange, add it to the solution of ferric hypophosphite, mix well, and filter. A fluid drachm of this elixir contains one grain of the hypophosphite of quinine and one grain of ferric hypophosphite.

V. *Elixir of Hypophosphite of Iron, Quinine, and Strychnine.*—This is the above elixir (IV.) containing  $1\frac{1}{8}$  grain of hypophosphite of strychnine in the fluid drachm, and is made by triturating one grain sulphate of strychnine with the sulphate of quinine and alcohol, and increasing the quantity of hypophosphite of calcium by one grain.

VI. *Elixir of Calisaya with Hypophosphites.*—This is the "Elixir of Calisaya" proposed by me in 1866,\* containing hypophosphites in such proportion that two teaspoonfuls represent one teaspoonful of "Improved Syrup of the Hypophosphites with Iron" (I.). It is therefore necessary to reproduce the formula for the elixir of calisaya, as modified for this purpose.

Take of calisaya bark, twenty-four troy ounces; Curacao orange-peel, sixteen troy ounces; coriander, four troy ounces; cinnamon, three troy ounces; cardamom, one and a half troy ounces; anise seed, one troy ounce; cocoa (Baker's), eight troy ounces. Having reduced these ingredients to a moderately fine powder, displace them with a mixture of one volume of strong alcohol and three volumes of distilled water, until two gallons of percolate are obtained.

Meanwhile prepare from six pints of solution of tersulphate of iron, hydrated sesquioxide of iron by the formula of the Pharmacopœia, measure the magma, and add to every four volumes one volume of strong alcohol; then add of this mixture sufficient to the percolate, obtained as above, to deprive it of its cincho-tannic acid. The absence of the latter is readily ascertained by the addition of a drop of muriated tincture of iron to a filtered portion of the liquid, which should not be colored by such addition. Should coloration result, the intensity or faintness will serve as a guide to the further addition of the ferric oxide. As soon as de-tannation is effected, filter the whole through a *double* muslin cloth, express the residue under a press, filter this portion, add to that first obtained, and measure the united filtrate. Add to the residual magma on the cloth sufficient of the above-described mixture of alcohol and water to make the united filtrates, when again expressed and filtered, measure three gallons. Now triturate two fluid drachms of fresh oil of orange with four troy ounces of prepared chalk, incorporate this with the three gallons of de-tannated "cinchona liquor," and agitate occasionally for twenty-four hours and then filter.

\* *American Journal of Pharmacy*, xl., p. 104.

The "cinchona liquor" so obtained is just twice the strength of the "elixir of calisaya" above referred to, and when mixed with an equal volume of "improved syrup of the hypophosphites with iron" forms the "elixir of calisaya with hypophosphites."

VII. *Elixir of Calisaya and Hypophosphites with Strychnine* may be made by dissolving one grain of strychnine by the aid of a few drops (or just sufficient) of hypophosphorous acid in one fluid drachm of distilled water, and adding sufficient of the above elixir (VI.) to make one pint. A dessertspoonful contains  $\frac{1}{4}$  grain of strychnine.

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### "MANICURE."\*

A number of persons at New York and at frequented summer resorts have for some time past been doing a profitable business in the treatment of the hands and finger-nails of those who consider themselves to be in need of such service. In a recent number of the *Art Interchange*, published in this city, the editor gives the following reply (in substance) to a correspondent who wishes information concerning the methods and materials employed. It is not unlikely that some of our readers may find it profitable to prepare the materials requisite, and give the necessary directions for their use.

For cosmetic gloves, take chamois or castor—the best quality is not necessary—three sizes larger than the person ordinarily wears; rip them open and spread them with the pastes below described. If you call at the lady's house and examine her hands, and learn what they need and the number of her gloves, you can prepare accordingly, and order gloves to be worn at night. The following is a useful prescription for whitening the hands, to be preceded by baths and washes, to be described further on.

*Cosmetic Paste No. 1.*—Myrrh, 1 ounce; honey, 4 oz.; yellow wax, 2 oz.; rose water, 6 oz.; glycerin added according to thickness of paste, just enough to make it spread easily. Melt the wax in a dish over boiling water, add the myrrh while hot; beat up together, then add honey and rose water; beat again, and lastly add glycerin from a teaspoonful up; spread over the inside of the gloves; then sew them up; they are ready for use.

*Cosmetic Paste No. 2.*—Two teaspoons of oil of sweet almonds; one ounce of rose water, thirty six drops tincture benzoin; one teaspoonful glycerin; yolks of two fresh eggs; one teaspoonful of rice flour. Beat to a paste, and line gloves, or rub on hands, and wear close-fitting gloves over it at night.

*Cosmetic Paste No. 3.*—One teaspoonful of the best pine tar;

\*New Remedies.

one pint of pure olive oil. Melt in tin cup over boiling water. This can be kept on hand, and, if preferred, may be perfumed with rose water. To be spread on hands and worn with gloves. One application will not be sufficient; the beautifying of the skin is a work of more or less time, according to its condition.

Ground barley, the white of an egg, one ounce of honey, and a teaspoonful of glycerin spread thickly inside gloves, and worn at night, is a useful recipe for the hands.

Another recipe for whitening the hands, and an inexpensive one to prepare, is composed of home-made soft soap; half a pound; salad oil, one gill; mutton tallow, one ounce; boil together; then add, when away from fire, spirits of wine, one gill; ambergris or some other perfume according to fancy; benzoin would answer. Spread on gloves and wear at night.

For ordinary use to keep the hands white where they are used in house work, bran mittens are excellent. Make good sized mits of cloth, fill with wet bran or oatmeal first, washing the hands with vinegar and glycerin, or lemon-juice and glycerin rubbed in afterward; then put the bran mittens on; tie closely at wrist, and wear them every night, or at regular intervals as needed.

Alum added to white of egg and rose water is good for making the flesh firm; a trifle of glycerin added is an improvement.

*Color for finger-tips.*—A pinkish tint is thought to be desirable for the tips of the fingers; it can be attained by the use of the following:  $\frac{1}{8}$  oz. alkanet root chippings soaked for a week in alcohol diluted with water will give a lovely stain for the finger-tips; apply by dipping a bit of raw cotton in the mixture, and touching the finger-tips with it.

*Polish and color for the nails.*—Rub the nails, which must be carefully trimmed with sharp scissors, with equal parts of cinnabar and fine emery powder, and afterwards with scented oil of almonds.

*To remove spots.*—Pitch and myrrh melted together and laid over the nails over night will soon cause white specks to disappear. Butter or cream will remove the pitch in the morning.

*For Removing Discoloration.*—Two ounces of fine almond soap (white soap is always best) dissolved in two ounces of lemon juice, to which must be added one ounce of oil of almonds and a trifle of carbonate of potash and one teaspoonful of glycerin, stirred up until like soap, is excellent to wash the hands with occasionally, but it must not be used where the skin is chapped or abraded.

*A Fine Toilet Salve,* and useful for chapped surfaces, is made with two ounces of oil of almonds, one drachm each of wax, spermaceti, and glycerin, melted together and perfumed by two ounces of rose water and half an ounce of orange-flower water.

Fine pumice stone smoothed and rounded is exceedingly useful for smoothing the palms of the hands and the fingers. As a first step in beautifying the nails, lather well with warm soap suds

from a pure white soap ; dry, and while the nails are softened, trim carefully, push down the skin all round to show the shape of the nails and the little half moon at the base of the nails ; remove hangnails, and then polish and cover with powder described for the purpose. It would be well to treat the hands at the first, and then remove specks from nails and finally polish. The polishing may afterwards be done by the lady at home, if desired. Use different prescriptions, according to state of hands. Bran in warm water and vinegar is useful for a wash ; make into lather with fine white soap, add rub the hands well with the bran. Indian meal and oatmeal are also good for a preparatory bath before trimming and polishing nails and using cosmetic preparations. The various cosmetics can be sold at prices according to their first cost. The washing cosmetic with potash need only be used once or twice, and is useful after the bran bath or before ; the cosmetic gloves may follow for night use. Always use pure white soaps ; almond soap, glycerin, and lettuce-oil soap are to be recommended ; also the oatmeal and fine pumice soaps where the skin will bear the latter.

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## THE CHINESE DRUGGIST IN NEW YORK.\*

FRED. HOHENTHAL.

The Chinese drug-store here, the only one this side of San Francisco, was established by "Kwong Lung Jin," in 1878, and he is doing a flourishing business among his people now. The proprietor is a stout Chinaman, about 35 to 45 years of age, very intelligent, revered by his countrymen, but not so well versed in the English as his assistant, who is about ten years younger. I experienced much trouble on my first visit in assuring him that I was not a customs officer ferretting out his opium trade, but on seeing my readiness to buy little trifles, he immediately installed me in his good graces, and invited me to dine with him.

The store is a small apartment, about 20x30 feet, with sleeping rooms, kitchen, parlor, etc., in the rear. There were shelves all around, covered with bottles and jars, and the top shelf mounted by many paper packages cabalistically marked, and containing roots and herbs in great variety. In a small case behind the counter were the few mineral drugs, and a good many little trifles not belonging strictly to Pharmacy, such as porcelain jars, pencils, skullcaps, beads, rings, etc. There were also some animal drugs of which I will speak later on.

Pendant from the ceiling were bunches of herbs and dried

\* A paper read before the Alumni Association of the New York College of Pharmacy, reproduced in the *Druggists Circular*.



meat. On the floor; under the shelves, were articles of food, such as barrels of rice, flour, dried fish, etc. There were also about forty drawers behind the counter, for the most used drugs, those in the packages being only very seldom used. Large jars were filled with different pleasant tasting fruits, not used as medicines, and smaller glass jars with the various medicinal fruits, of which there was a large number, the chief uses of which seemed to be in the cure of consumption; a disease the Mongols seemed to be peculiarly liable, judging from the fact that about ten per cent. of their medicines are for its cure.

They have no liquid medicines whatever; they simply sell the drugs, extolling their virtues, and the purchaser or patient prepares them with boiling water in the form of infusion or decoction and sometimes extract, unless he has not the conveniences therefor at home, when the apothecary will do it for him. As an accommodation for his customers, the doctor keeps a pot of hot tea on the counter; any one wishing to drink takes a cup from a basin of water near by, fills it, drinks, and replaces the cup without saying a word. A peculiarly constructed tobacco pipe, on the principle of the Turkish narghileh is also on the counter, but only for the use of intimate friends. The tobacco they use is very fine and of peculiar flavor. Their tobacco pipes, the common kind, are made of a rod of bamboo strung with the kernels of a peculiar scented nut, and furnished with a bowl of metal about half an inch in diameter and half an inch deep, and an ivory mouth piece. The pipe is perfectly straight and two feet long; they vary in price from \$2.50 to \$7.00 according to age; those which have been already smoked for some time bring more than new ones.

Their balances are on the plan of the steelyard, the small ones with a bar of ivory, from which is suspended a brass pan and a moveable brass weight; one in my possession is twelve inches long and has over 125 marks for telling the weight, which ranges from two ounces downwards to two or three grains, very accurately. They have these balances of all sizes, and use them with great dexterity.

Their camel's hair pencils are about ten inches long, of bamboo, into one end of which the brush is inserted, and it is fitted with a cover, also of bamboo, the whole stem being curiously carved with their strange devices, and these cuts filled out with blue coloring.

Their writing materials are the pencil above described, an iron or porcelain plate six by eight inches, with a receptacle for water. They dip a piece of India ink in the water, rub it on the plate, and rub the pencil in this mixture, and write from above downwards.

They have some very pleasant fruits, one of these, the "Gua,"

is about the size of a walnut, and consists of a kernel as large as a hazelnut, surrounded by edible fleshy pulp, and the whole enveloped in a hard, brown, brittle shell.

Among the familiar drugs I found Spanish saffron, safflower, musk, litharge, metallic mercury, ginger, ginseng, oil of peppermint.

I found also Russian castor, and American castor, and what was claimed to be from the bear.

Also fine Chinese isinglass in one piece, just the size and shape of an ordinary flounder, and which he wanted to sell me for \$2.00. He called it by a name that resembled "Guitteau."

I found also several narcotic herbs resembling belladonna, hyoscyamus, stramonium, also a root resembling glycyrrhiza, only much larger in diameter than that is usually found. It is called "Gum Cho," and is used for chewing on account of its sweet taste.

Among the most notable goods was a substance in small lumps of yellow color, and called "Nau Wau." It occurs in lumps, about the size of a walnut, in stomachs of cows. The doctor said that it is found only in one cow in a hundred. It is used to apply to a sore foot in the form of paste, and is used only by the aristocracy.

There was a peculiar bark called "Os Chong," remarkable for the silky fibre it shows on breaking it in any direction; it is used in the form of decoction for weakness of the heart. The price is ten dollars a pound.

There were also dried lizards, which are to be boiled and eaten.

There were disinfecting fumigators, strips of bamboo, about one foot long, and as thick as a hairpin, which were covered on the upper half with a fragrant mass, which glowed for two hours when once lit, perfuming the rooms very pleasantly. They were called "Sau Hong."

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## Editorial.

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### THE SALE OF PARIS GREEN.

We have not learned that anything more has been done in regard to restricting the sale of this poison, and as the season for its use is now over it is likely that the matter will remain in *status quo* until after the election of the new Council in June next. The death of Mr. Bray, the energetic chairman of the Committee on Infringements, will tend to this result, as time will be required to appoint another chairman, and it is doubtful if anyone can be found to devote the necessary time and attention to the subject.

A letter to the *Toronto Mail* from a correspondent styling himself "One of the Public," will probably have been seen by some of our readers. We should not think it worth while to recall this vulgar and abusive production, save for the gross misstatement made with reference to the action of the College. It is alleged that "an attempt is being made to interfere with the sale of Paris green, blue vitriol, sugar of lead, madder compound and such other paints and colorings." The question has never been raised in regard to any of these articles save the first, and its violent character, together with the numerous accidents that arise almost weekly from its use, have rendered action necessary on the part of those who have the safety of the public legally entrusted to them. If "One of the Public" had known a little more of the subject about which he wrote so intemperately, and had really the welfare of his fellow beings at heart, he would never have proved traitor to the class that he claims to represent.

We recently heard of an instance that shows very pointedly one of the sources of danger from Paris green. A woman entered a general store in the country and asked for a quarter of a pound of coffee. The proprietor or clerk courteously waited upon her, took a tin scoop from a keg of Paris green, and without attempting to clean it, proceeded to use it for taking out the coffee. But for the bystander who related this incident, one or more of the public would have received a dose of arsenic quite sufficient to cause discomfort, to say the least of it.

There can be no doubt of the fact that except a man receives a special training and special experience, and is thoroughly familiar with poisons, he will never have that sense of responsibility necessary to handle them with any degree of safety, and even then our lives are none too certain.

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### THE "TIMES" ON COUNTER PRESCRIBING.

In some editorial remarks on the excellent address of Professor Attfeld to the British Pharmaceutical Conference, the *London Times* of Aug. 24th, pays a high tribute to the pharmacist of the present day, and recognizes fully his importance as a public servant, but does not think that any further legislation is needed for

his protection. It is deemed that the power of adding to the Poison Schedules with the approval of the Privy Council is quite as much as the public interest demands, and all that the law need require and can enforce, is that persons who dispense prescriptions shall be properly qualified and properly registered.

Some exception is taken to an apparent contradiction in some statements made by Professor Attfield, but from the remarks made thereon it will be seen that the *Times* holds very similar views, and is equally contradictory when trying to reconcile theory with practice. It will be necessary to explain that in one part of the address the practice of mixing up professional medical treatment with pharmacy was strongly condemned, while in another part it was said that the druggist's recommendation of simple remedies should be founded on knowledge and experience—a statement that certainly implied encroachment on the grounds of the prescriber. On this the *Times* says:

“The fact is that there is no little variance between theory and practice in this matter. The theory, of course, is that to the doctor only should belong the power of prescribing remedies, and that the pharmacist has nothing to do but compound them. The physician is the man of science; the pharmacist is merely his instrument. Such is, no doubt, the ideal relation between the two, especially as regarded from the physician's point of view. But the popular mind does not always move in an impatient of the solemn ‘*ordonnances des médecins*’ as it was in the time of Moliere. In scores of simple cases the chemist's advice is almost as good as the doctor's; and, what is more to the point, it is a good deal cheaper to obtain. If chemists oftentimes do harm by prescribing, it must nevertheless be remembered that as often as not the real fault lies with the applicant for their advice. A man often goes to the chemist's shop not so much for the specific advice as for the purpose of obtaining a remedy that he wants, or thinks he wants. He is hoarse, and thinks a gargle will do him good; he is bilious, and asks for a simple purgative or a saline draught; and the chemist has nothing more to do than to give him a remedy which he has compounded scores of times at the doctor's bidding in similar cases. Where is the line to be drawn? Common sense alone can draw it, and the common sense must quite as often be that of the patient himself as of the chemist to whom he applies. We are afraid that such a lax view as this of the duties and functions of the pharmacist will be regarded as flat heresy by the medical profession. We can only say that the medical men are not wholly disinterested in the matter, and we may add that when the patient finds his way to the chemist's shop it is very

often the doctor who has shown it to him. There was a time when the doctor, especially the country doctor was his own pharmacist. To this day the license of the Apothecaries' Company is a qualification for the practice of medicine. The practice of medical men compounding their own drugs is by no means extinct, though it is discouraged and discountenanced by the medical profession at large. It has its good and its bad side, no doubt, and very likely the evil preponderates. But if medical men insist on abandoning the practice of pharmacy, it is certain that in many cases the pharmacist will have to supply their place. The practice of consulting pharmacists exists, and, human nature being what it is, we doubt if it is possible to do very much in the way of checking it. Medicine, in one sense, is a science or a whole assemblage of sciences demanding the highest skill and the widest experience for their mastery and practice; in another sense, it is an art of which almost every man considers himself to have at least a smattering. The higher sphere properly belongs to the physicians; if the pharmacists have gained a footing in the lower, it is only because they have thereby satisfied a popular need."

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### RECIPROCITY IN DIPLOMAS IN ENGLAND.

At a recent meeting of the Pharmaceutical Council of Great Britain a communication was read from the President of the Pharmacy Board of Victoria (Australia), asking that the qualifications of those who had passed the major examination in that country should be recognized in Great Britain. It was pointed out that the examinations in both countries were as nearly as possible of equal value, and that persons holding the British certificate might be registered in Victoria without examination.

This communication elicited considerable discussion, which ultimately reduced itself into a question of the powers of the British Board to deal with an application of this kind. It was finally decided that a reply should be sent stating that the Council had no power, at present, to accede to the request, but that when it went to Parliament for fresh legislation the general policy of recognition might be considered.

This matter is of some interest to Canadians, as we are in precisely the same position as the pharmacists of Victoria, but have the advantage of being a much older organization, with more perfect system and experience. It is not, however, likely that

many pharmacists from either Victoria or Ontario will take a retrograde step and strive to seek their fortunes in the old world ; but still it would be pleasant to think that the courtesy that has been so freely extended to English druggists would be reciprocated by the parent society.

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### SALE OF WINES AND LIQUORS BY DRUGGISTS IN QUEBEC.

The druggists of the Province of Quebec are not favored like our registered druggists in Ontario in the matter of dispensing wines and liquors for medicinal purposes. Very recently the Inland Revenue Department at Montreal took the stand that druggists must take out a grocer's license in order to sell quinine wine, beef wine and iron, etc., and then in not less quantity than a trade package, while in order to sell alcohol a saloon license was said to be necessary.

A committee of the Quebec Association waited on the Hon. Mr. Wurtele, Provincial Treasurer, in order to protest against this action, and, if possible, make better arrangements. The Hon. gentleman received the deputation very courteously, and, after listening to the explanations made, consented to withdraw the case against the druggists, and allow the retail trade to sell quantities of alcohol of less than one pint without special license, while wholesale druggists must take out a special spirits of wine license, which costs \$100; and then are not permitted to sell less than two gallons.

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### MANITOBA COLLEGE OF PHARMACY.

The first semi-annual examination of this organization was to have been held on Wednesday, Sept. 20th, so we shall probably have the results in next journal. The Board of Examiners consists of the Council, of which Mr. W. Whitehead, of Winnipeg, is President, and Mr. J. Colcleugh, of Selkirk, Vice-President. The remaining members of the Council are Messrs. Mitchell, of Winnipeg; Flexon, of Emerson; and McIntyre, of Winnipeg. The last named gentleman has been appointed Registrar, and under his energetic direction the books of the College are being brought into shape, and the details of organization completed.

We understand that it is the intention of the College to prosecute several offenders under the Act, who are either without qualifications, or are foreigners from other than Her Majesty's Dominions.

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### SCHOOL OF PHARMACY.

From the number of applications and inquiries, it is quite probable that the attendance at the School will be much larger than last term. The session will commence on October 10th, and be continued until January 26th, just prior to the examinations.

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## Editorial Summary.

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It is not generally known that amber may be cemented by moistening the surfaces with solution of potassa and pressing them together.

MR. FRANZ LUDWIG GEHE, senior partner of the great wholesale drug house of Dresden, died recently at the age of seventy-two years. He has been succeeded by his nephew, Dr. Luboldt.

ACCORDING to Burgoyne's *Literary Supplement* the tendency of goldbeaters skin to become rotten may be obviated and the tissue indefinitely preserved by rubbing over it a little vaseline and wiping off the surplus.

THE quality of methylated spirit may be easily estimated by pouring a measured quantity into ten times its bulk of water. The degree of opalescence, and the odor and tint of the mixture afford somewhat imperfect, but still valuable indications of the quality of the alcohol.

AN antiseptic inhalation composed of two drachms each of carbolic acid, and the ethereal tincture of iodine, and one drachm of creosote in an ounce of alcohol; ten drops morning and evening, has been found very useful in incipient tuberculosis by a correspondent of the London *Lancet*.

MR. E. MILLER, in a paper read before the New York College of Pharmacy, said that as a result of his experiments on commercial, so-called, oil of tar, he concluded that it is a mixture of coal-tar oil with wood-tar oil, and that the dark colored oils contain pitch. Oil distilled from Norwegian wood-tar is, when rectified, of a pale sherry color.

THE American Hectograph patent has been declared valid, and only the patentees have, therefore, the right to manufacture copying pads of gelatine and glycerine. A warning appears in one American journal to the effect that agents are going round the country and getting druggists to fill small tin trays with composition, with a view to manufacturing evidence for subsequent prosecutions.

THE *Druggists' Circular* thinks that despite the waiting of manufacturers there is but little likelihood of quinine being again taxed in the United States, and that the question may be dropped. As all the manufacturers are busy, and not one has stopped making the alkaloid it may be presumed that the work affords a reasonable profit, though perhaps not to the extent of the old days of the monopoly.

THE subject of the utilization of musk rat musk is at present receiving some attention in trade journals, and may probably be the means of creating a demand for a native and plentiful product. It is asserted by some that the odor is finer than that of Chinese musk and is preferred by some perfumers. We wish that some of our country subscribers would make some experiments and give the JOURNAL the benefit of them.

THE question is frequently asked as to the amount of salicylic in salicylate of sodium, and authorities are not agreed on the point. A writer in the *Druggists' Circular* takes up the subject, and the editor makes some remarks thereon, from which the conclusion may be drawn that one avoirdupois ounce of the acid when neutralized with about 270 grains of bicarbonate of sodium will yield from 490 to 507 grains of the salt.

THE English Pharmacy Act, like ours in Ontario, admits of additions to the Poison Schedule, on approval of the Privy Council, or Lieutenant Governor, as the case may be. Several addi-



tions were lately recommended by the Pharmaceutical Council, but only one was allowed. Hereafter, nux vomica, and its preparations shall be deemed a poison within the meaning of the Act, and is to be embraced in the second part of Schedule A.

FOLLOWING the article of Mr. Power, on the solubility of sulphate of morphia, noticed a few months ago, are the results of experiments made by Mr. V. Coblentz, detailed in the last number of the *Am. Jour. Pharm.* This gentleman took the morphias of Powers & Weightman, Rosengarten, Merck, T. & A. Smith, and C. T. White, and found that, in round numbers, the salt requires from 18 to 24 parts of water, at 15° C., for perfect solution.

A NEW mode of separating silver from its alloys has been devised by M. Solthein, *Arch. de Pharm.* The alloy is dissolved in the smallest possible quantity of nitric acid, excess of ammonia is added, which precipitates lead, bismuth, etc., as hydrates. The solution is filtered into a cylindrical vessel, and into this is inserted a strip of copper, not too thin as to fall to pieces during the reduction. Metallic silver is precipitated, the more rapidly as the solution is concentrated.

Dr. HENNING, in the *Therapeutical Gazette* supplies some information respecting the uses of the bark of the root of the fringe tree, snow flower, old man's beard, (*Chionanthus Virginica*) as it is variously called. The drug possesses tonic, diaphoretic, diuretic, and aperient properties. It is in jaundice, and hypertrophy of the liver that its effects are most marked, and it is also useful in dyspepsia, where the stomach is in an atonic condition, and the liver and intestines are torpid.

A VERY strange statement is made by Dr. A. B. Hewson, who, in the *London Lancet*, discusses the relative value of ether prepared from pure alcohol and that from methylated spirit. The author concludes, as a result of much experience, that chloroform made from methylated spirit is safer, less liable to produce sickness and laryngeal spasm, cheaper and altogether more desirable than that from pure alcohol. This statement is quite contrary to the general belief, but is however, possibly true.

IN the *Phila. Med. and Surg. Report*, attention is directed to

the statement of Professor Wertheim, (*Wiener Med. Blatter*) that chlorate of potassium should never be used as a gargle, as in concentrated solution it may prove very harmful, while the chloride is innocent, and is a specific in sore throat, and especially in mercurial sore mouth. Despite this statement the chlorate has been found very useful in throat diseases, but in mercurial stomatitis the chloride is the proper remedy, and it is questionable whether in many instances the chloride is not intended when "Pot. chlor." is ordered.

A CORRESPONDENT of the *Druggists' Circular* cites a new instance of an explosive mixture. A gargle made of an ounce of tincture of opium, 3 drachms of solution of chlorinated soda, 3 ounces of honey, and water to 8 ounces, exploded with a loud report, bursting the bottle and also breaking the windows of a room in which the medicine was kept. The mixture looks harmless enough, but probably gas was generated from the action of the the chlorinated soda on the alcohol of the tincture, and being confined in a corked bottle a pressure was produced, thus giving rise to the explosion.

THE purification and deodorization of petroleum benzine may be best effected by agitating it with 5 per cent. of strong oil of vitriol, for 24 hours, adding 5 per cent. of the weight of litharge, one per cent. of zinc dust, and 10 per cent. of water, and again shaking or agitating briskly. The benzine is then washed with slightly alkaline water and decanted, when a strong solution of curd soap is added and agitated with it. The final process consists in rectification, or this may be substituted by filtering the benzine through a little magnesia. The purified product leaves no residue and possesses only a slight ethereal and not unpleasant odor.

A SO-CALLED improvement in making Tinct. Arnica, U.S.P., is suggested by C. H. Hæntze in the *Am. Jour. Pharm.* for Sept. which consists in the addition of one twenty-fourth part of powdered sodium carbonate to the proportion of flowers used. By employing a percolator with an elevated reservoir, a "dark, clear, and strong tincture" is produced. The addition of sodium carbonate is quite objectionable, and might interfere seriously with

the reputation of the tincture as an external application, and the use of a pressure percolater is certainly not required in this case, of all others, as the flow of liquid through the powdered flowers is always quite easily maintained.

AUTHORITIES on brewing now say that the addition of one half an ounce of salicylic acid to each barrel of 36 imperial gallons of sound beer or porter, is sufficient to prevent the production of acidity, either lactic, butyric or acetic, and also of turbidity from organic impurities, rendering impossible the development of parasites in the yeast, not retarding the steady and normal development of the taste and flavor, and as the beer keeps better it is said to be more wholesome. Common beer, or that intended for export, may require as much as an ounce of acid to the above quantity. The addition should be made immediately after the beer is taken from the fermenting vats, and may be put in through the bung-hole, the barrel being rolled over a few times.

MANY ways have been devised for the preservation of leeches. Perhaps the simplest is that given by a correspondent of the *Pharm. Jour. & Trans.* The writer says his plan is most satisfactory, only three leeches having been lost in four years. A bell-shaped Maw's aquarium is half filled with water, and into this a few rough stones, about the size of an orange, are placed. The leeches are put in, and the water is only changed twice a year, the aquarium being kept in the shop. The writer thinks that frequent changing of the water is prejudicial to the health of the leeches, as it often subjects them to rapid changes of temperature. When the stock of leeches is low, say amounting to half a dozen, it is necessary to take them out and keep them separate, before putting in fresh leeches; otherwise, the old inhabitants make war on the new comers and destroy them. In this respect leeches are like bees, which at once pounce upon and kill intruding strangers.

THE *Canada Journal of Medical Science* comes out fearlessly on the percentage system, and while declining to carry a discussion any further that has already been worn thread-bare, says that there is no doubt that a number of physicians do take a percentage on prescriptions, in Toronto, and make quite a revenue by it. "To any fair minded man," says our contemporary, "be he professional

or otherwise, there can scarcely be two opinions on the subject. The practice is most reprehensible in every respect, and we can only wonder why it has ever received any countenance. It is neither dignified from a professional point of view, nor straightforward in a business aspect. It is a mean petty way for the physician to make a few cents extra on a consultation, while at the same time an injustice is being done to the public, because, argue as you will, the percentage comes out of the patients' pockets, and that too without their knowledge, if we except the few who have become initiated."

AMMONIA ALUM is now seldom seen, being almost altogether replaced by the potassium salt; indeed, alum manufacturers say that there is no demand whatever for ammonia alum. It must, however, be remembered that both the British and United States Pharmacopœias recognize the latter, and for certain purposes it cannot be substituted by the other variety. Mr. W. W. Will, in the *Phar. Jour. and Trans.*, gives a ready method by which the ammonia salt may be prepared for pharmaceutical purposes. Fourteen pounds of aluminum sulphate, (cake alum), are dissolved in three and a half gallons of hot water, and filtered. Three and a half pounds of ammonia sulphate are dissolved in half a gallon of hot water and added to the filtered solution. The mixed solutions are then brought to the boiling temperature, and poured off into a suitable vessel to crystallize. After a few days the crystals are collected and drained in a loosely stopped funnel, and will be found to answer to the B. P. tests.

THE literature of quassia has been much enriched by the contribution of A. Christensen, presented to the Strasburg Pharmaceutical Institute, an abstract of which appeared in an August number of the *Pharm. Jour. and Trans.* He found that quassiin, which it is presumed is the active principle exists as such in the wood. The mode of eliminating this principle, followed by the author is rather too much in detail to be presented in this form but may be briefly said to consist in treatment of a watery extract with tannic acid, decomposition of the washed precipitate, extraction with alcohol, and recrystallization from ether-alcohol. As to the proportion present in the wood, a sample of Jamaica quassia, which yielded 3.2 per cent. of extract, gave .06 per cent of

quassiin, while a subsequent consignment of Jamaica, and Surinam wood gave scarcely any quassiin, though yielding 2.8 and 2.6 per cent of extract. These results do not justify the exclusion of Jamaica quassia from some pharmacopœias. Pure quassiin forms thin rectangular scales, of a bitter taste, without smell, permanent in the air, forming neutral solutions with water, soluble in 1230 parts of cold water, less soluble in boiling water, dissolved by alkaline solutions, soluble in 30 parts of rectified spirit, more soluble in boiling alcohol, dissolving with difficulty in ether and petroleum spirit, and soluble in 2.1 parts of cold chloroform. An aqueous solution of quassiin is not rendered turbid by metallic salts, but is precipitated by tannic acid. Examination of the wood for traces of volatile oil gave negative results.

SEVERAL correspondents of the *Chemist and Druggist* have answered an inquiry regarding the best application for preventing the attack of midges, and alleviating the pain of the bite of the undefeated insect. As the midge may be considered the best English substitute for our American mosquito, and as the remedies good against one may answer for the other, we notice these communications. One says that a few drops of oil of origanum rubbed over the hands and face answers well. Another recommends a liniment made of two drachms each of the oils of eucalyptus and pennyroyal, a drachm of carbolic acid, half a drahm of glacial acetic acid, half an ounce of spirit of camphor, and castor oil to four ounces. For insect bites the application of a moist cake of soap, allowing the lather to dry on the skin, will be found both convenient and useful. A Madras authority recommends for scorpion stings exposure of the surface of the skin to heat, and a correspondent of a Ceylon paper says that moistened quicklime is a sovereign remedy for all stings, and next in efficiency to this ranks a poultice of ipecac. We doubt not but the lotion containing carbolic acid and castor oil would prove very good, but like all these compounds the remedy is as bad as the disease. Fancy a young lady at a picnic going for a row on the river with her lover, with her face covered with castor oil and carbolic acid. It would be disgusting to both parties, if not absolutely poisonous to one. Almost as bad is the practice sometimes resorted to by lumbermen of putting inside the hat or cap a piece of very fat pork, so that by the gradual liquefaction of the grease a constant trickling of oil is maintained. This plan is harmless and effective, and might be added to the above list.

THERE are few drugs more uncertain in strength and action than ergot and its preparations. Although many chemists have labored much in order to clear up the chemical history of this much used medicinal agent it must be confessed that it is difficult at present to get a definite or thorough idea of the subject. M. Tanret, who is considered an authority on ergot, thinks that activity is altogether due to an alkaloid, *ergotinine*, and that this principle is combined in various ways in the drug—as with a resin in the so-called *ergotine* of Wiggers—a compound insoluble in water; or again in a combination soluble in water, the aqueous extract of ergot, also called *ergotine*. Both these compounds have been praised and condemned, while the oil of ergot, which some time ago was considered an active ingredient, is now commonly said to be inert. A French chemist, M. Perret considers that all the injurious effects ascribed to ergot are due to the oil it contains, which, it is asserted, is in itself poisonous, producing ergotism, and in addition by its presence causes a rapid change and deterioration in the ergot. He proposes to extract the oil by ether, and says that the purified ergot may be preserved unaltered for an indefinite period. The ergot is dried in a stove at 60° C.; it is then powdered and again dried, finally by a water bath until its weight is constant. It is allowed to cool in a dry chamber and perfectly exhausted of oil by percolation with ether, free from water, at a temperature of 65° C. The cake is then broken up, dried first at 35°, then at 60 to 80°, and for a few moments at 100° C. It is then cooled in a dry chamber, sifted, and preserved in suitable vessels. After all the exposure to heat the ergot still contains a little ether which tends to protect it from air and insects. It is questioned by M. Tanret whether the treatment with ether does not extract some of the ergotinine, indeed it is asserted that at least one fifth of the total alkaloid is thus taken up. If so the purified ergot is not as active as the unexhausted drug, but a French physician furnishes the most satisfactory evidence of the value of the new preparation, which in the same dose, he considers much more certain and reliable in its effects than any other.

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#### AMERICAN PHARMACEUTICAL ASSOCIATION.

Last year, when Niagara Falls was selected for the next place of meeting, it was prophesied that the attendance would be larger than on any previous occasion, and the meeting just concluded has, in this respect, more than fulfilled the most sanguine expectations.

Very great changes have taken place since thirty years ago, when the first meeting of the Association was held in New York, and only eighteen delegates were present, and the total attendance reached twenty-five. The organization has grown in membership and importance until it is the ruling pharmaceutical power of the United States. Although Niagara Falls is just the place to attract a large number of visitors, it was found that in some respects a wiser selection might have been made, in fact, the natural attractions of the locality rather overbalanced those of the Association, and it was found that delegates who should have been listening to the papers that were read, were listening to the Falls instead, or admiring the unrivalled scenery of the locality. We do not feel inclined to cast the first, or indeed any other stone at these wanderers, and think that if the Association wants a good attendance, it should visit the duller places to be found, and not throw temptation in the way. At present, we take it that the annual meeting is as much for sociality and an outing as anything else, and the non-debating member can put in an occasional appearance during the session, and have a very pleasant and profitable time, and when he gets home can digest at his leisure the very excellent "Proceedings" furnished to all.

In this report it is not our intention to weary our readers with detailed lists of names of committees, or items of routine, which have little interest to other than members of the Association, and we shall merely attempt to present a readable report of an unofficial character.

The address of the retiring president, Prof. P. W. Bedford, embraced a history of the earlier days of the Association and its progressive stages of growth. Of the members enrolled thirty years ago, only seven or eight are now alive, and one, Mr. Heinitsh, of Lancaster, Pa., was present at this meeting. In 1881 the active members numbered 1,423, with 20 honorary members; while the mortuary list for that year recorded the passing away of 14 honorary and 230 active members. It was thought advisable that a change of the time of meeting from September to August should be made, as many more from the South and West could thus be present, and the president also advocated a change in the order of business, so that the election of officers should take place at a later period during the proceedings, or that the officers appointed should not assume office until the closing session. This would allow them to get a better knowledge of their duties than under the present system. Great disappointment was expressed that the efforts made to have the "Stamp Tax" removed had proved altogether unsuccessful, and a renewed appeal to Congress for the repeal of this "odious" measure was advocated. Allusion was made to the British Pharmaceutical Conference, the large number of papers read, and the great prominence attached to

this feature. The progress of pharmacy was but lightly touched upon, as this would be thoroughly taken up by the official reporter, Prof. Diehl, to whom a high tribute was paid. It was stated that before another month passes the "Report" will be in the hands of members. During the year pharmaceutical organizations have been formed in Massachusetts, Indiana, Virginia, Louisiana and Nebraska, and it was estimated that the total membership of the various associations now numbers over five thousand. The state of pharmaceutical legislation in the different States was described as an entanglement of legal enactments, but the laws are nevertheless carried out very fairly, and with due respect to the public safety, by the numerous Pharmacy Boards. The lowest percentage by which candidates for examination can obtain registration is 60 per cent., while one or more licensing bodies require answers to 80 per cent. of the questions asked. "To make the certificates of proficiency exchangeable in the various parts of the Union would seem to be not only impossible, but, in some cases, a positive error." Considerable attention was given by the president to the subject of pharmaceutical education, the main recommendation being that organizations of druggists should be formed wherever practicable, and schools of pharmacy established; that proprietors should give more time and better facilities for learning to their apprentices, and that greater care should be taken in the selection of apprentices, particularly as to their preliminary education.

The progress of legislation was reported by the committee, from which we learned that new laws for two states and vigorous amendments to the laws of three others were made during the year. In Connecticut, druggists are required to pay an additional license fee of from \$10 to \$12 for the privilege of dispensing spirituous liquors in prescriptions, while in Iowa a bond of \$3000 is necessary. In Georgia, physicians of nine years standing are exempt from the pharmacy law, but all other persons must pass an examination, paying a fee of \$15 with 50cts. to the county auditor. In Alabama the licensing board is connected with the medical fraternity and the sale of poisons is placed under rigid restrictions.

The proceedings of the second day were commenced by the election of officers, Mr. C. A. Heinitsh, before referred to was made president, the Association departing from the usual custom of selecting the president from the druggists residing in the place of meeting. Messrs. Ingalls, Dohme & Blanding, were elected vice-presidents, Mr. Maisch and Mr. Diehl were reinstated in the offices which they have so long and ably filled, and the remaining officers and committees were duly appointed.

In reporting on the state of the drug market, Mr. Lehn alluded to the prosperous condition of business and the confident



tone and upward tendency noticeable during the year. The quality of drugs has very much improved, a result mainly due to the dissemination of pharmaceutical literature. Speculation has recently diminished, and business is now conducted on a sounder basis. Hopes are entertained that the tariff commission empowered by Congress will take up the stamp tax on patent medicines and that some changes will be made. The prices of drugs during the year were given and compared but these details cannot be reproduced at present.

Mr. Diehl presented his annual report on the progress of pharmacy, but as it would require something like a week to read it, it was as usual, taken as read, and ordered to be printed. This report is one of the most valuable features of the work of the association, and is increasing yearly in value.

The reading of answers to queries was now engaged in, but we shall defer an abstract of those papers until next number, when they will be separately taken up.

Messrs. Greenish, Squire, & Ince, of London, Eng.; Schacht, of Clifton; Reynolds, of Leeds; Brunnengraeber, of Rostock; Schacht, of Berlin; Martenson, of St. Petersburg; and Senimberghi, of Rome, were elected honorary members.

The session on this day was short, an opportunity being taken of sight-seeing, and preparing for the ball at the Cataract House, the headquarters of the Association. We cannot vouch personally for the statement, but from the evidence of parties who are qualified to speak, it appears that the people of Niagara have in no wise lost their hospitable characteristics. The charge, "I was a stranger and ye took me not in" cannot be laid at the door of the inhabitants of this interesting, but interested region. If Mr. Seabury, in his warning to intending visitors to give a wide berth to the Indian curiosity department had included a reminder not to go near the Cataract, he would have received the blessing of many who now state their disgust in no measured terms. Despite all, however, the ball on Wednesday, and the banquet on Thursday evenings were enjoyed by many who tried to make the best of a bad bargain.

Very little was done on Thursday, nearly all the time being taken up in the reading of papers; it was, however, announced that the next meeting is to be held on the second Tuesday in September, 1883, at Washington, and a committee was adopted to consider the advisability of holding a meeting in California within the next two or three years.

Considerable time was taken up on Friday morning in an expression of indignation at the proprietor of the Cataract House, who, after serving his guests to a poor repast, with worse attendance, threatened to put out the lights at an hour comparatively early on such occasions, and thus brought the toasts and speeches

to an untimely conclusion. It is probable that hereafter, the banquet will be dispensed with, and some other entertainment substituted. The papers remaining on the list were now read, and a series of resolutions relating to the qualifications and rank of apothecaries in the U. S. army and navy were then passed, and the Association adjourned, the announcement having been previously been made that one hundred and nineteen new names had been added to the role of membership during the meeting.

Among the Canadians present were Mr. Evans, Montreal; Mr. Foster, Simcoe; Mr. Gregory, Lindsay, Mr. Harvey, Guelph; Mr. Hodgetts, Toronto; Mr. Jordan, Goderich; Mr. Miller, Toronto; Mr. Pearce, Toronto; Mr. Robinson, Toronto; Mr. Rose, Toronto; Mr. Saunders and sons, London, and Mr. Simpson, Halifax, N. S.

The exhibition was perhaps the finest that has ever been held under the auspices of the Association, and was of a decidedly more interesting character than on previous occasions. Powers and Weightman of Philadelphia: had an exhibit valued at about \$25,000, comprising handsome specimens of the various chemical and alkaloidal products, for which they enjoy a well-merited reputation. The arrangement of crystals was very tastefully displayed, and the whole effect very fine.

The exhibit of Schieffelin & Co., of New York, was, we think, the most interesting, chiefly from the display of original packages of drugs, some forty or fifty of which were shown. The sample of cajuput oil attracted much attention, as also the cinchona barks and opiums. The display of soluble pills and granules, as well as pharmaceutical and chemical preparations, was very extensive, and, as attested by the numerous awards and medals which this firm have received, very difficult to surpass.

McKesson & Robbins this year devoted their attention principally to toilet requisites, druggists' sundries, and fancy goods pertaining to the business. It would be useless to enumerate the articles shown, but in point of design many of these goods were truly elegant. Human invention has certainly been taxed to the utmost to present these goods in new and attractive forms, and the attempt has been eminently successful. The firm also had a very complete series of sponges from various parts of the world, and also a collection of Turkish towels of fifty different patterns.

THE department of pharmaceutical preparations, including extracts, elixirs, pills, etc., was represented by the houses of Bullock & Crenshaw, W. R. Warner & Co., Wyeth & Bro., Tarrant & Co., Hance Brothers & White, and Eli Lilly & Co., while Seabury & Johnston, and T. W. Heinemann (Chicago), showed very full lines of plasters. Recksecker, Young, Ladd & Coffin, and Lazell, Marsh & Gardiner, had each handsome exhibits of the special lines of perfumery for which they are so well and favor-

ably known, while the toilet soap industry was represented by Colgate & Co., who also showed a good collection of their handkerchief extracts and toilet waters. Smith, Cline & Co. exhibited a line of concentrated liquors for making syrups, after the style of a celebrated English manufacturer, which promise to be useful to the druggist as being handy to use and proving the means of saving freight. This firm had also a pill and lozenge machine, plaster spreader, and a new form of percolator on the vacuum principle, all of which presented points of interest. McIntyre & Embury showed an assortment of dialysates, a new class of preparations containing the crystallizable principles of vegetable drugs. Henry Troemner, had as usual an assortment of balances and scales and weights of admirable workmanship, and the firm of Pile & Sons, showed an assortment of hydrometers, thermometers and other instruments for ascertaining temperature and density. H. Sugden, Evans & Co.—the only Canadian Exhibitors, but ostensibly hailing from their Boston house, showed a collection of their lime fruit specialties, which are rapidly becoming popular in the U. S. There were a number of other exhibits but the above embrace the most important and will prove sufficient to show that the exhibition was a thoroughly characteristic one representing very thoroughly the advance of American pharmacy.

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## Correspondence.

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### THE LATE COUNCIL MEETING.

*To the Editor of the Canadian Pharmaceutical Journal.*

DEAR SIR,—In the report of the proceedings of the Council of the Ontario College of Pharmacy contained in the September number of the JOURNAL, on page 42, we find the following :—

“Friday, 4th August. Council called to order at 9.10 a.m., Messrs. Saunders (London) and Yeomans being absent.”

Now since some might construct this absence into neglect of duty we desire to explain why we were not present. On Thursday the 3rd, after a brief morning session of less than two hours, an adjournment was forced by a majority of one, *until the day following*, in order, as some expressed themselves, that they might have a good time. This adjournment was entirely uncalled for as the reports which should have been next taken up were ready for presentation. Both of the undersigned, and several other members, strongly protested against the adoption of such an unbusinesslike course, and urged that if any of the members present desired to take

a holiday it should not be done at the expense of the college ; but argument was unavailing

Feeling that we could not consistently become parties to this proceeding we left for our homes, but, before leaving, penned the following protest, addressed to the President of the Ontario College of Pharmacy :

"Dear Sir,—We desire to enter our earnest protest against the action of the majority of the Council, this morning, in adjourning after a brief session of about two hours, until to-morrow morning, when the whole of the remaining business might have been easily finished in an afternoon session. It is certainly the duty of the members, whose expenses are paid out of the funds of the College, to attend first to the business of the College, taking their own pleasure afterwards. The action referred to will result in unnecessarily taxing the funds of the College with an additional day's expenses for each member remaining, a course which we feel is inconsistent with our sense of what is right and just, and one which we decline to participate in. We claim the right as members of the Council to have this protest placed on record.

WM. SAUNDERS,  
L. W. YEOMANS."

This protest was read to the Council on Friday morning, but the majority refused to allow it to appear in the proceedings, hence in explanation of our conduct, and in justice to ourselves, we take the earliest opportunity of placing the whole matter before the members of the College. We shall always be glad as far as possible to give the time necessary to conduct with all care the business entrusted to us, but when valuable time is to be wasted, and the funds of the College taxed, in order that some of the members of the Council may indulge in what is called "a good time," we must decline to participate in such proceedings. This is not the first occasion in the history of the present Council, when such uncalled-for adjournments have taken place, and we feel convinced that it is quite time that some public notice was taken of it.

Yours very truly,

WM. SAUNDERS,  
L. W. YEOMANS.

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## OBITUARY.

The announcement in the daily papers of the death of Mr. W. T. Bray, of Wingham, must have occasioned a severe shock to all those to whom he was personally known. It was at first difficult to realize that one who seemed the embodiment of energy and animal life should be forever stilled by the hand of death ere he had reached

the turning point in life, or half climbed the hill to the summit of which his ambition would have led his steps.

The circumstances of his death, as related by Mr. Waugh, of Stratford, to whom deceased was intimately attached and who was with him until he died, are as follows: On Thursday, August 31st, he accompanied some visiting friends on a fishing excursion, when the boat, in which the party were, capsized in deep water, and they had an extremely narrow escape from drowning. Deceased did not return home that evening, and it appears that his clothing was not thoroughly dried. On going to business next morning he complained of pain in his chest, but disregarded it, and not until Saturday night would he take his physician's advice to give up work and take care of himself. On Sunday morning the case was strongly marked as congestion of the lungs, and several doctors, including deceased's brother, were in attendance. Solidification of the right lung took place rapidly, and it was soon seen that there was not the slightest hope of recovery—an announcement that Mr. Bray received with perfect resignation, retaining to the last his mental faculties, and making every preparation for the future. He died without a struggle on Sep. 17th, in the presence of his family and friends.

Deceased lacked but a few days of being thirty-five years of age. He was a son of the late W. Bray, a druggist of Petrolia, who died on the 16th of last month. Mr. Bray, junior, leaves a widow and two children—a son of 3 years, and a daughter aged two months. He was greatly beloved in Wingham, and took a deep interest in all local affairs, ever foremost in promoting the prosperity of the town. He was a member of the School Board, and very prominent in his connection with athletic associations.

In pharmaceutical matters, we need not say that Mr. Bray took a leading part. He held a seat in the Council for nearly four years, and was Chairman of the Infringement Committee, a position that he filled with much ability and with marked success. Many times during his illness he spoke with regret at not being able to be present at the meeting of the American Pharmaceutical Association—a visit that had been anticipated with much pleasure by himself and some of his Canadian friends.

Deceased was buried with full Masonic honors; as at the time of his death he held the office of Grand Junior Warden of the Grand Lodge of Canada, and had previously filled many high positions in the craft.

## MARKET REPORT FOR OCTOBER.

The low fares given by railways during the holding of the various exhibitions have had the effect of bringing about personal visits of buyers to the wholesale houses in Toronto, Hamilton, and London. Trade has, in consequence, been quite active. There has also been a considerable demand for goods for Manitoba.

*Opium* has slightly declined, and it is lower in price on this side the Atlantic than in England. *Morphia*, which is governed by the British market, retains its price.

*Quinine*.—The market has been quiet; the usual fall demand not having developed as much strength as expected. Howard's has attained a very strong position in the New York market, being quoted and sold fully thirty cents an ounce over that of all other makers. This is, no doubt, due to the perfect uniformity and dryness of the crystals. The firm has not, however, established so good a reputation for sulphate of cinchonidia—the best German makes leading considerable in price.

*Miscellaneous Drugs*.—Castor oil is locally in rather slow supply, but prices are not quotably higher. Cubeb berries have increased enormously in price. Cantharides are likely to be considerably dearer. Cod-liver oil remains quite firm. It appears that the fish when fat in the body have lean livers, and *vice versa*. This year lean livers have been the rule on both sides of the Atlantic. Mercury and mercurials, though firmer, offer no special feature of remark. Since the termination of Egyptian hostilities gum Arabics have hardly maintained their price, but tragacanth still bring full rates. Golden seal is lower since the new crop has come into market. Jamaica ginger is very firm with an upward tendency. Great difficulty is experienced in getting satisfactory samples of China rhubarb. Canary seed remains steady, but hemp seed is very scarce, and must advance in price. Essential oils used by manufacturers of fancy soaps are in active demand, and prices generally high.

*Paints & Oils*.—Up to the end of July the shipments of linseed from Calcutta to Europe were fifty-five per cent. in advance of the corresponding period last year. This has had the effect of cheapening English oil, while Canadian oil maintains its place. This is accounted for by the supply of home grown seed being equal to only half the demand. No stock of spirits of turpentine has accumulated during the active period of production and prices have steadily advanced. There is now no prospect of any decline until a new crop comes in next year.

# Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor not later than the 25th of each month.

## BUSINESSES FOR SALE.

J. R. Bond, of Schomberg, will either sell or rent his store in that place, with a stock of shelf bottles, scales, etc.; and dwelling, if required, as he has removed to Tottenham. A good business has been done here for twenty years past.

The executors of the late W. T. Bray, of Wingham, advertise the business for sale.

Josiah Green wants to dispose of both his businesses now carried on at 382 and 630 Queen Street West, Toronto. A good trade is done, the only reason for retirement is the ill health of the owner.

Henry Schofield offers for sale his business on 150 York Street, Toronto. Stock light and well assorted.

Drug business for sale in a country town; population, 1,300; stock about \$2,000, including books and stationery; sales over \$5,000 per annum; telegraph office; only reason for selling, failing health; business paying well. Apply to Lyman Bros. & Co., Toronto.

C. M. Irwin, Arthur, wants to sell his drug and stationery business.

## BUSINESSES WANTED.

John Callard, London, Ont., wants to buy a business.

J. W. Browett is desirous of learning of a good opening, or purchasing a business.

## FOR SALE OR EXCHANGE.

One British and one U.S. Pharmacopœia, latest editions, and as good as new; or will exchange for U.S. or National Dispensatory. Chemist, 324 Spadina Avenue, Toronto, Ont.

A pair of Brass Counter Scales, with box-end beam, on mahogany stand, with drawer; also set of brass weights, on mahogany stand; 2 lbs. down to one-sixteenth oz; accurate and stamped. Apply to G. Hodgetts, 305 Yonge Street, Toronto, Ont.

## SITUATIONS VACANT.

A. J. McDonald, Elora, wants an Assistant with one or two years experience; one who understands Telegraphing preferred. State age and salary.

Messrs. Carman & Co., Emerson, Man., want a competent Assistant. Wages \$25 to \$40 per month, with board.

ASSISTANT: state age and salary expected, with all necessary particulars. Apply at once to W. J. Wilson, Kingston, Ont.

## WANTING ENGAGEMENTS.

A young man with five years' experience in the retail drug business in Ontario, will be open, about December 1st, for an engagement as Assistant or Manager in a retail, or salesman in a wholesale business. Graduate O. C. P.; references first-class. Box 83, Drayton, Ont.

## WANTING ENGAGEMENTS,

## CONTINUED.

- W. V. Cook, 35 Yonge Street, Yorkville, three and a half years' experience, desires a situation with a Toronto druggist.
- A gentlemen, thoroughly familiar with the manufacture of Perfumery and Toilet Soaps, is open for an engagement, or could take a position in a Wholesale House. Address, F. H. Williams, 121 Wellington St. West, Toronto.
- As Druggist—first class—long experience—best of references and testimonials; member O. C. Pharmacy. Apply Box 124, Seaforth.
- W. H. McConnell, 14 Oak Street, Toronto, served in Co. Monaghan, Ireland; has references, desires a situation as Assistant.
- W. H. Maxwell, Oshawa; two years with W. T. Atkinson, wants a place as Assistant.
- G. D. Patterson, 394 Yonge Street, two and a half years' experience, with D. L. Thompson, Toronto, wants an engagement.

## BUSINESS NOTES.

- D. W. Bole, a graduate of the College, formerly conducting business at Wardsville, has purchased the business of Dr. Shirley, of Watford, and fitted up the store in the most modern style.
- Since writing the above, we regret to see that Mr. Bole's entire stock and household effects were destroyed by the late large fire that occurred at Watford, on the morning of Sept. 23. Mr. Bole's loss on stock is stated at \$1,300, on which there is only \$300 insurance).
- J. R. Bond, who for the past twenty years has carried on business at Schomberg, has removed to Tottenham, on the H. & N. W. R. R.

## BUSINESS NOTES,

## CONTINUED.

- R. G. Bredin, formerly of Belleville and Hamilton, has purchased of Josiah Green his branch business at 324 Spadina Avenue, Toronto.
- A. B. Eadie, formerly manager of J. R. Lee's Queen Street branch, Toronto, has purchased the business of Dr. Thompson, King Street East.
- S. Nelson Erbe, who passed the last College Examination, has purchased the business of J. E. Neville, Queen Street East, who has gone to California on account of ill health.
- A. H. Johnston has opened a new business at Collingwood.
- Kennedy & Callard, London, have dissolved, the business is now conducted under the style of James A. Kennedy & Co., R. E. Blandille having being admitted a partner.
- Dr. M. McGarvin, formerly of Acton, has started a drug business at Clifford.
- W. Brown has retired from the partnership in the old established firm of Parker & Co., Owen Sound, and has gone to Winnipeg.
- Messrs. Smith & McGlashan, Yonge Street, Toronto, have closed out their business by an auction sale. If about twenty others in the city would follow the same course, those remaining might have some slight chance of making a respectable living. Messrs. Smith & McGlashan are taking up the manufacture of several specialties.
- H. P. Wilkins, King St. East, is also selling off his stock and intends devoting himself to the study of medicine.
- Dr. John Standish, of Palmerston, is closing out his business and going to Detroit, U.S.
- W. J. Holden, of Southampton, is also going to Detroit.
- J. G. Deans, Madoc, is reported to have given a chattel mortgage.
- G. M. McLaren, formerly of Watford, but now of Nelsonville, Man., has recently been visiting his friends in this section of Canada.



**WHOLESALE PRICES CURRENT-OCTOBER, 1882.**

<b>DRUGS, MEDICINES, &amp;c.</b>		<b>§ c.</b>	<b>§ c.</b>	<b>DRUGS, MEDICINES, &amp;c.—Contd.</b>		<b>§ c.</b>	<b>§ c.</b>
Acid, Acetic, fort .....	per lb	0 12	0 14	Gum Arabic Sorts, powdered ..		0 80	0 30
Benzoic, pure .....		0 13	0 30	Assafetida .....		0 80	0 23
Carbolic, cryst., med .....		1 25	1 30	Benzoic .....		0 50	0 80
com .....		0	0 50	Catechu .....		0 12	0 13
Citric .....		0 80	1 00	powdered .....		0 20	0 25
Gallic .....		1 60	1 80	Gamboge .....		1 00	1 25
Muriatic .....		0 03	0 06	Guaicum .....		0 65	1 00
Nitric .....		0 10	0 15	Myrrh .....		0 45	0 85
Oxalic .....		0 18	0 19	Sang Dracon .....		0 65	0 45
Salicylic .....		2 40	2 75	Scammony, powdered .....		4 90	5 00
Sulphuric .....		0 02	0 05	" Virg. ....		12 50	14 00
Tannic .....		1 25	1 30	Shellac, Orange .....		0 45	0 60
Tartaric, pulv .....		0 65	0 75	Shellac, liver .....		0 40	0 75
Ammon, carb. ....		0 21	0 24	Storax .....		0 65	0 50
Bromide .....		0 75	0 90	Tragacanth, flake .....		0 65	1 35
Iodide .....		5 00	0 00	" common .....		0 25	0 65
Liquor, 880 .....		0 20	0 22	Galls .....		0 25	0 28
Muriate .....		0 14	0 15	Gelatine, Cox's 6d. ....		1 20	1 25
Æther, Nitrous .....		0 27	0 45	" French .....		0 50	0 80
Sulphuric .....		0 50	0 60	Glycerine, common crude .....		0 25	0 28
Antim. Nig., pulv .....		0 15	0 17	" 30" .....		0 40	0 45
Tart .....		0 55	0 60	Prices .....		0 00	0 00
Alcohol, 95 per ct., bbl ..	Cash	2 75	3 00	Honey, Canada, best .....		0 15	0 17
Arrowroot, Jamaica .....		0 14	0 22	Iron, Carb. Precip. ....		0 16	0 20
Bermuda .....		0 45	0 65	Citrate Ammon .....		0 95	1 00
Alum .....		0 02	0 03	" & Quinine, oz. ....		0 45	1 10
Balsam, Canada .....		0 45	0 50	" & Strychine .....		0 18	0 20
Copaiba .....		0 90	1 10	Perchloride solution .....		0 16	0 20
Tolu .....		1 00	1 25	Sulphate, pure .....		0 06	0 10
Bark, Bayberry, pulv. ....		0 18	0 20	Iodine, commercial .....		2 50	2 72
Canella .....		0 12	0 14	Resublimed .....		3 50	3 75
" pulv. ....		0 20	0 22	Jalapin .....		0 75	1 50
Peruvian, yel. pulv. ....		0 25	0 50	Kreosote .....	lbs	0 75	3 00
" red .....		1 60	2 40	Leaves, Buchu .....		0 20	0 30
Prickly Ash .....		0 55	0 58	Belladonna .....		0 50	0 33
Slippery Elm, grd. bulk ..		0 18	0 25	Foxglove .....		0 27	0 38
" flour, packets .....		0 28	0 32	Henbane .....		0 25	0 25
Sassafras .....		0 12	0 16	Horehound .....		0 15	0 25
Wild Cherry .....		0 10	0 12	Lobelia .....		0 20	0 25
Berries, Cubebs, ground. ....		1 40	1 50	" pulv. ....		0 40	0 45
Juniper .....		0 06	0 10	Senna, Alex .....		0 23	0 25
Beans, Tonquin .....		2 40	3 60	" E. I. ....		0 10	0 14
Vanilla .....		10 00	15 00	" Tinnevely .....		0 13	0 25
Bismuth, Trisnit. ....		2 50	2 60	Uva Ursi .....		0 15	0 17
Carb. ....		2 60	2 70	Lime, Chloride .....		0 02	0 05
Liquor .....		0 35	0 55	Lime, Hypophos. hite .....		2 00	2 25
Borax, refined .....		0 19	0 20	Sulphite .....		0 10	0 11
Camphor, American .....		0 35	0 37	Lead, Acetate .....		0 14	0 17
English .....		0 48	0 50	" Brown .....		0 09	0 10
Cantharides .....		1 50	1 60	Leptandrin .....	oz.	0 50	0 75
Powdered .....		1 61	1 75	Lye, Concentrated .....	doz.	1 00	1 25
Chiretta .....		0 40	0 50	Liquorice, Solazzi .....	lb.	0 50	0 55
Chloroform. Pure .....		1 15	1 75	Martucci .....		0 35	0 37
" D. & F .....		1 90	2 00	Other brands .....		0 14	0 35
" German .....		0 75	0 90	Magnesia, Carb. ....	1 oz.	0 22	0 25
Chloral hydrate .....		1 40	1 60	" 4 oz. ....		0 19	0 22
Cinchonine, Muriate .....		0 40	0 48	Calcined .....	lb.	0 60	0 70
" Sulphate .....		0 34	0 42	Citrate .....	gran.	0 40	0 75
Cinchonidia, Sulphate .....		1 10	1 10	Mercury .....	lb.	0 70	0 75
Cochineal, S. G. ....		0 50	0 60	Ammoniated .....		1 25	1 30
Black .....		0 55	0 65	Bichlor .....		0 80	0 90
Collodion .....		0 75	0 90	Miniodide .....		4 00	5 00
Cuttle-Fish Bone .....		0 40	0 50	Chloride .....		0 90	1 10
Ergot .....		0 60	0 80	C. Chalk .....		0 40	0 70
Extract Belladonna .....		3 10	3 10	Nit. Oxyd .....		1 10	1 30
Colocynth, Co. ....		1 25	1 75	Morphia Acet .....	oz	2 85	2 95
Gentian .....		0 50	0 60	Mur. ....		2 85	2 90
Hemlock, Ang .....		1 00	1 05	Sulph. ....		3 00	3 10
Henbane .....		3 00	3 50	Musk, pure grain .....	oz	32 00	3 00
Jalap .....		2 50	5 00	Canton .....		0 60	0 70
Mandrake .....		1 75	2 00	Moss, Irish .....		0 08	0 10
Nux Vom. ....	oz	0 20	0 30	Oil, Almonds, sweet .....	lb.	0 60	0 65
Opium .....	oz	1 00	0 00	" bitter .....		12 00	13 00
Rhubarb .....	lb	4 00	5 00	Aniseed .....		3 75	4 00
Sarsap. Hon. Co. ....		1 00	1 20	Bergamot, super .....		3 80	4 20
" Jam. Co. ....		4 00	4 50	Caraway .....		3 20	3 50
Taraxacum, Ang .....		0 65	0 80	Cassia .....		1 50	2 00
Flowers, Arnica .....		0 25	0 28	Castor, E. I .....		0 11	0 14
Chamomile .....		0 20	0 25	Cedar .....		0 50	0 50
Fuller's Earth .....		0 03	0 04	Citronella .....		1 80	2 50
Gum, Aloes, Barb .....		0 30	0 70	Cloves, Ang .....		3 00	3 25
" Cape .....		0 20	0 25	Cod Liver, Nor., Imp. Gal		3 25	3 50
" powdered .....		0 23	0 25	" N. F. ....		2 25	2 50
" Socot. ....		0 54	0 75	Croton .....	lb	1 85	2 00
" pulv .....		0 62	0 80	Hemlock .....		0 45	0 90
Arabic. Select .....		0 40	0 45	Juniper Wood .....		0 65	0 00
" powdered .....		0 45	0 55	Berries .....		0 00	2 00
" .....		0 45	0 55	Lemon .....		4 00	5 00

# WHOLESALE PRICES CURRENT.—OCTOBER, 1882.

DRUGS, MEDICINES, &c.— <i>Contd.</i>		
Oil, Lavand, Exotic.....lb.	1 40	3 50
Lemon.....	3 50	4 00
Orange.....	2 40	2 60
Neroli, super.....oz.	3 50	5 50
Origanum.....lb.	0 65	0 85
Peppermint Ang.....	11 00	15 00
Amer.....	4 00	5 00
Rose, Virgin.....	12 00	12 50
" good.....	5 90	6 50
Santal Ang.....	9 00	9 75
Sassafras.....	0 65	0 80
Verbena.....	1 75	2 00
Wintergreen.....	4 00	4 50
Wormwood, pure.....	9 50	0 00
Ointment, blue.....	0 55	0 60
Opium, Turkey.....	5 00	5 25
pulv.....	7 70	9 00
Orange Peel, opt.....lb.	0 35	0 40
" good.....	0 16	0 25
Pill, Blue, Mass.....	0 55	0 75
Potas., Bi-chrom.....	0 16	0 20
Bi-tart.....	0 35	0 40
Bromide.....	0 48	0 55
Cyanide.....	0 54	0 55
Carbonate.....	0 13	0 15
Chlorate.....	0 22	0 25
Iodide.....	2 15	2 25
Nitrate.....	8 75	11 00
Sulphuret.....	0 25	0 35
Pepsin, Boudault's.....oz.	1 20	1 20
Morson's.....oz.	0 90	1 00
Phosphorus.....	0 90	1 05
Podophyllin.....	0 45	0 50
Quinine, Howard's.....	2 65	2 75
" German.....	2 30	2 38
Root, Colombo.....lb.	0 20	0 40
Curcuma, grd.....	0 11	0 15
Elecampane.....	0 16	0 17
Gentian.....	0 07	0 10
" pulv.....	0 12	0 20
Hellebore, pulv.....	0 17	0 18
Ipecac.....	1 75	0 00
Jalap, Vera Cruz.....	0 38	0 45
Liquorice, select.....	0 13	0 15
" powdered.....	0 13	0 15
Mandrake.....	0 12	0 20
Orris.....	0 18	0 25
Rhubarb, Turkey.....	2 25	2 40
" E. I.....	0 85	0 95
" pulv.....	1 00	1 20
Sarsap., Hond.....	0 45	0 65
" jam.....	0 60	0 00
Squills.....	0 16	0 20
Senega.....	0 95	1 00
Spigelia.....	0 55	0 60
Sal., Epsom.....	0 02	0 02½
Rochelle.....	0 35	0 38
Soda.....	1 25	2 50
Seed, Anise.....	0 12	0 15
Canary.....	6 00	7 00
Cardamon.....	3 00	3 25
Fenugreek, g'd.....	0 08	0 09
Flax, Oat. Cash 100 lbs.....	3 25	0 00
" Imported.....	3 00	3 25
Hemp.....	0 06½	0 07
Mustard, white.....	0 10	0 15
Saffron, American.....	0 70	1 00
Spanish.....	18 00	0 00
Santonine.....	6 00	8 00
Sago.....	0 08	0 09
Silver, Nitrate.....Cash	13 20	14 00
Soap, Castile, mottled.....	0 10½	0 11½
Soda, Ash.....	0 02½	0 05
Bicarb. Newcastle..Keg	3 25	3 75
" Howard's.....lb	0 16	0 16
Caustic.....	0 03	0 05
Spirita Ammon., arom.....	0 40	0 45
Strychnine, Crystals.....oz	1 75	2 00
Sulphur, Precip.....lb.	0 15	0 16
Sublimed.....	0 03½	0 03½
Roll.....	0 02½	0 03½
Verdigris.....	0 50	0 55
Wax, White, pure.....	0 65	0 75
Zinc, Chloride.....oz	0 10	0 15
Sulphate, pure.....lb.	0 09	0 12
common.....	0 06	0 10

## DYE-STUFFS.

Annatto.....	0 35 @	0 60
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## DYE-STUFFS—*Continued.*

Argols, ground.....	0 15	0 33
Blue Vitriol, pure.....	0 06½	0 08
Camwood.....	0 05½	0 08
Copperas, Green.....	0 01½	0 02
Cudbear.....	0 15	0 30
Fustic, Cuban.....	0 02½	0 03
Indigo.....	0 75	1 00
Extract.....	0 25	0 36
Japonica.....	0 06½	0 08
Lacdy, powdered.....	0 33	0 38
Logwood, Camp.....	0 02½	0 03
Extract.....	0 9	0 12
" 1 lb. bxs.....	0 13½	—
" ½ lb. ".....	0 14½	—
Madder, best Dutch.....	0 12½	0 14
Quercitron.....	0 03	0 05
Sumac.....	0 06	0 07
Tin, Muriate.....	0 10½	0 12½
Redwood.....	0 03½	0 04
SPICES.		
Allspice.....	0 20 @	0 23
Cassia.....	0 20	0 25
Cloves.....	0 40	0 50
Cayenne.....	0 33	0 37
Ginger, E. I.....	0 12	0 14
jam.....	0 27	0 30
Mace.....	0 85	1 00
Mustard, com.....	0 40	0 25
Nutmegs.....	0 95	1 00
Pepper, Black.....	0 18	0 20
White.....	0 25	0 26
PAINTS, DRY.		
Black, Lamp, com.....	0 08 @	0 10
" refined.....	0 18	0 25
Blue, Celestial.....	0 09	0 12
Prussian.....	0 65	0 75
Brown, Vandyke.....	0 05	0 06
Chalk, White.....	0 01	0 01½
Green, Brunswick.....	0 07	0 10
Chrome.....	0 16	0 25
Paris.....	0 22	0 24
Magnesia.....	0 15	0 20
Litharge.....	0 07	0 08
Red Lead.....	0 04½	0 07
Venetian.....	0 02½	0 03
Sienna, B. & G.....	0 07	0 08
Umber.....	0 07	0 10
Vermillion, English.....	0 90	1 00
American.....	0 20	0 22
Whiting.....100 lbs	0 85	1 06
White Lead, dry, gen.....lb.	0 06½	7 00
" No. 1.....	0 05½	6 00
Yellow Chrome.....	0 09	0 15
" Ochre.....	0 02	0 03
Zinc White, Star.....	0 06½	0 11
COLORS, IN OIL.		
Blue Paint.....	0 12 @	0 15
Fire Proof Paint.....	0 06	0 08
Green, Paris.....	0 30	0 37½
Red, Venetian.....	0 07	0 10
Patent Dryers, 1 lb tins.....	0 10	0 12
Putty.....	0 03	0 03½
Yellow Ochre.....	0 08	0 12
White Lead, gen. 25 lb. tins.....	1 80	2 00
" No. 1.....	1 60	1 75
" No. 2.....less 7½pc	1 40	1 50
" No. 3.....	1 20	1 25
White Zinc, Snow.....	2 25	2 35
NAVAL STORES.		
Black Pitch.....	3 50 @	4 00
Rosin, Strained.....lb	4 00	4 00
Clear, pale.....	5 50	6 50
Spirits Turpentine Imp.Gall.....	0 88	0 80
Tar Wood.....	4 50	5 00
OILS.		
Cod Imp. Gall.....	0 65 @	0 70
Lard, extra ".....	1 05	1 10
No. 1 ".....	0 85	0 90
Linseed, Raw per gals.....	0 72	0 75
Boiled.....	0 76	0 80
Neats-foot.....	1 20	1 20
Olive, Common, Imp. Gall.....	1 05	1 45
Salad.....	2 11	2 20
" Pints, cases.....	4 00	4 20
" Quarts.....	3 25	3 50
Seal Oil, Pale, Imp. Gal.....	0 80	0 85
Union Salad.....	1 10	1 20

# CANADIAN PHARMACEUTICAL JOURNAL

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TORONTO, NOV., 1882.

WHOLE No. CLXX.

## PREPARATION OF ESSENCE OF RENNET FROM FRESH STOMACHS.\*

BY DR. J. NESSLER.

In this paper the author communicates the results of some experiments made with the object of comparing the activity of essence of rennet made according to Soxhlet's method from dried stomachs† and that of essence made from fresh stomachs.

The experiment showed that, using corresponding quantities of dried and fresh stomach, the latter yielded the more active preparation. It was found, moreover, that the activity of the preparation from a fresh stomach could be increased by the removal of mucus, which not only made it more bulky, but prevented it from diffusing the milk so readily, and that this removal could be effected without injury by means of blotting paper. Preparations made from the top layer of the inside of the stomach, scraped off with a knife, proved much more active than others for which the residuum contained too much ferment to permit it to be left unused.

The author gives the following instructions for the preparation of an essence of rennet from fresh stomachs. Chop up a fresh calf's stomach as finely as possible, pour upon it two litres of water in which 100 grams of common salt has been dissolved, and shake well. After twelve hours add 200 c.c. of 90° alcohol, and allow the whole to stand, with frequent stirring, in a closed flask for three weeks, then decant, and add sufficient blotting paper to cover it. After several weeks, during which the vessel must be kept well closed, the essence of rennet is drawn off into bottles and preserved. A liquor prepared in this way was, when fresh, capable of curdling 6000 times its volume of milk, and, being kept in a well-corked bottle, it was found, after two years, to have diminished in activity only from 1 in 6000 to 1 in 5451.

The author adds that distilled or rain water gives a more active

\* Pharmaceutische Zeitung, July 15, Supplement in Pharm. Jour. & Trans.

† Pharmaceutical Journal, [3], ix., 307.

essence than spring water, and that it is advantageous to mince the stomach as finely as possible.

### SOME OF THE USES FOR ERGOT.

Dr. John Dewar writes to *The Practitioner* some interesting experience in the use of ergot. In the course of the article, he remarks on the contradictory results derived from its use. "Several things may account for this: the inertia of the drug, the dose administered, and in the manner in which it has been given. Certain preparations are inert, or nearly so—as the stale powder and the ordinary tincture. Heat is said to be destructive in preparing it, though old practitioners who have for a lifetime been in the habit of making at the bedside 'tea' from the powder of the 'beans' will doubt this. Alcoholic extracts are less powerful than aqueous ones. But it is even now a disputed point among chemists and physiologists as to what its active principle is. Levi says it is due to phosphoric acid, Winckler to the trimethylamine it contains, and Dragendorff to sclerotic acid, and this seems the most likely. Most observers agree that ecbolin and ergotin are not active principles, and that these never bring about the specific action of the drug—the so-called *ergotin* in use not being ergotin, but a compound body. However, all this is of minor importance to the physician, provided he obtains an active preparation. The liquid extract and the ammoniated tincture are the best, the latter especially, in obstetric practice. Ergotin is most convenient for subcutaneous injection."

Speaking of its use as a remedy, Dr. Dewar recommends it for trial in whooping, and as a means for arresting nasal catarrh in its early stage. The former is supported by so considerable experience that we quote it also.

"In mentioning a few diseases in which I have found it useful, I would place at the head of the list *Pertussis*.

"I am aware that in this disease a vast number of remedies are useful, but after a pretty extensive trial, both in hospital and private practice, I am inclined to regard ergot as the best and safest. Up to the time when I began to use ergot, I regarded the combination of bromide of potassium and tincture of belladonna, or sulphate of zinc and tincture of belladonna, as the best remedies with which I was acquainted, but that sometimes necessitated the belladonna being pushed to its physiological action before the disease would yield. That was sometimes not unattended with danger in young children unless they were carefully watched, which cannot be easily done in hospital or dispensary practice. Ergot seldom fails to cure whooping cough in from one to three weeks; the cases

that are longer in getting better are those complicated with bronchitis, or with troublesome bronchial catarrh. I give from four to fifteen minims of the liquid extract every three or four hours to children of three months and upwards. The benefit of the *secale* is at once apparent, the fits of coughing occur less frequently, and are not so severe when they do occur. I usually give it alone with a little sugar, but in complicated cases it may be combined with other remedies, and especially with the compound syrup of the phosphates to complete the cure when there is debility.....

"I do not here claim for ergot any specific power, but rather a physiological one. It may have a specific action, but of that there is as yet no proof. However, of its power to cut short the disease, there can be no doubt, whatever be the theory of its action. This I have in scores of cases proved, nor is it necessary to give cases in detail, as all the cases would simply show a daily declension of the disease till, at the end of a fortnight or three weeks, the cough quite ceased. But in some cases the cough returns when the medicine is left off, so it may have to be continued for two or even three months; this, however, is the exception."—*New Remedies.*

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## BRITISH PHARMACEUTICAL CONFERENCE.

The Nineteenth Conference met on August 22nd, at Southampton, under the presidency of Professor Atfield, and though the attendance was not quite so large as on former occasions, the meeting appears to have been a very enjoyable one. After the reception of delegates, and other routine business, the President's address was read, and proved the most important feature of the meeting. It is said that in no previous year was a more marked impression produced, and from the decided opinions expressed it is likely that considerable discussion will be evoked.

The reading of papers was then proceeded with, for a report of which we are indebted to the *Pharm. Jour. & Trans.* :

The first papers read consisted, as usual, of reports of work undertaken at the request, and with the aid, of the Conference. The first was a "Report on the Differences between the Essential Oils of Cinnamon and Cassia," by Mr. A. H. Jackson. The reporter stated that, tested from a physical stand-point, the oils possess distinctive and characteristic odors, and that the cinnamon oil has a more fiery taste than the cassia, but that neither the relative densities nor the refractive energies are sufficient guides in distinguishing mixtures of these oils, though the density of the oil of cassia was found to be somewhat greater than that of the oil of cinnamon. The chemical examination seemed to show that the

constituent or constituents in which the oils differ from each other are present only in extremely small proportion. The next report was by Mr. A. W. Gerrard, "On the Alkaloidal Value of Belladonna Plants," which was a continuation of a report on the same subject presented last year. The experiments referred to in the present report were made upon uncultivated plants in their first year's growth, from a chalk soil in Yorkshire and from a leaf mould in Sussex, and also upon cultivated plants in their second year's growth, gathered in May, June and July, or before flowering, whilst in flower, and whilst in fruit. The results obtained with the wild plants indicated that belladonna in the first year of its growth contains a very small proportion of alkaloid, but to that extent they were confirmatory of previous deductions by the author that the formation of alkaloid in the plant is favored by a chalky soil. Experiments with the cultivated plant showed that the plant becomes most rich in active principles at the period of flowering, and that the proportion is maintained in the fruiting season; further, that there is a simultaneous development of alkaloidal matter in the root and in the leaf, the former not being exhausted to strengthen the latter. A slight discussion followed, in the course of which Mr. Holmes remarked that he had observed that belladonna grows more luxuriantly in calcareous soils, which might perhaps account for its being richer in alkaloid. At the close of this discussion the Conference adjourned to luncheon, which was provided in an adjoining room.

On resuming, the first paper read was entitled "A New Styptic of Indigenous Growth," and contained some observations of Professor Quinlan upon the hæmostatic properties of the leaves of the *Plantago lanceolata*, or ribgrass. Notwithstanding the form of its title, the paper contained some interesting quotations from Shakespeare and Culpepper, proving that the ribgrass long ago had a great reputation as a styptic. Professor Quinlan exhibited some pharmaceutical preparations of the plant, but it would appear that for external application the dried leaves are effective or the fresh leaves in a paste such as would be produced by mastication. It is not quite clear in what manner the leaf acts, but some experiments appeared to show that it is devoid of any kind of tannin, and it was suggested by Professor Tichborne that if there were an astringent principle present it might be allied to the catechuic acid compounds. Mr. Borland said that *Plantago lanceolata* had long been used in the district in which he lived to stanch the bleeding of wounds, but he had hitherto thought that it was merely because they formed a convenient covering of a wound.

A résumé was then given by Mr. W. A. Shenstone of "Some Experiments on English Oil of Lavender," which had been undertaken to test statements made by foreign chemists to the effect that oil of lavender sometimes deposits in cold weather a camphor,

identical with common camphor, and that the oil contains a hydrocarbon boiling at a very high temperature ( $200^{\circ}$ - $210^{\circ}$  C.) Mr. Shenstone was unable to confirm either of these statements, the oil used by him evidently not containing any notable quantity of crystalline constituents, whilst the distillate collected about the temperature mentioned contained a large amount of oxygen. It would also appear from the independent experiments of the author and M. Bruylant, that the English and foreign oils of lavender differ very considerably in the amount of terpene which they contain. It may be remarked, in passing, that Mr. Shenstone's *résumé* was evidently appreciated by the audience, and it is worth consideration whether it would not be better, as a rule, to summarize papers containing a large number of details that cannot be followed in the reading, and to present the general results in such a form that they can be readily grasped, and, if necessary, discussed. No person in the habit of attending scientific meetings like the Conference, can have failed to observe the weariness that becomes evident in the audience during the reading of even valuable papers, the drift of which is obscured by the multitude of details.

Next, Mr. Parker read a meritorious paper upon "Terpin Hydrate: its Preparation and Crystallography," which had been suggested by the occurrence of some crystals in a jar of furniture oil, supposed to have been compounded chiefly of linseed oil, turpentine, butter of antimony and methylated spirit. The author does not seem to be aware that the formation of such crystals in furniture polish is by no means a new experience; but it may be mentioned that in the early days of the School of Pharmacy, Bloomsbury Square, the conditions under which the formation of such crystals took place was the subject of many experiments in the laboratory, though without any satisfactory result being arrived at. Besides an elaborate description of the crystallography of terpin hydrate, the paper contained details as to its preparation and physical properties, and it mentioned the interesting fact that it is probable that terpin hydrate may be made to yield several aromatic oils by the action upon it of dehydrating substances under suitable conditions.

The next paper was on "A New Method of Making the Volumetric Solution for Estimating Hardness of Water," by Professor Tichborne. The novelty consists in the use of an oleate of soda, the preparation of which he describes, in the making of the soap solution. Dr. Symes then read "Some Notes on Brazilian Drugs," in which he described a gum derived from the *Acacia Angico*, known in Brazil under the name of "resin de angico," and said to be useful for chest complaints. Another drug referred to was a species of elemi, named "almesca," differing in some respects from the elemi of commerce. The last drug described was a bark named "casca de guassatunga," from which in Brazil an alcoholic

tincture is prepared said to be useful in the treatment of snake-bites.

The chair was now taken by Mr. Groves, whilst a paper was read by the President, entitled "Half-an-hour with a Few Sheets of the New Pharmacopœia of the United States." The sheets upon which the remarks were based had been placed at the disposal of Professor Attfield by the courtesy of Professor P. W. Bedford, President of the American Pharmaceutical Association, who is also a member of the United States Pharmacopœia Committee. The work is printed in large octavo, and the division into the two classes of "Materia Medica" and "Preparations," which obtains in the last edition, is abandoned in favor of one simple alphabetical arrangement like that of the British Pharmacopœia. The system of chemical nomenclature advocated by Professor Attfield, is again followed, and the author of the paper justly claimed that this proved that it was practicable and serviceable in the medicine and pharmacy of an English-speaking people. The old system of weights and measures is abandoned, and the formulæ are, as a rule, expressed in parts by weight, but in cases where particulars of volume as well as of weight are required, the metrical decimal system is employed. The Pharmacopœia opens with a new class of preparations, termed "Abstracts," which are alcoholic extracts mixed with sufficient sugar of milk to make one part of the preparation represent two parts of the original drugs. The class includes abstracts of aconite, belladonna, conium, digitalis, hyoscyamus, ignatia, jalap, nux vomica, podophyllum, senega and valerian. A list of the additions and omissions was given, which cannot be referred to here further than to notice that "aconitia" is omitted, notwithstanding the assistance afforded to the Pharmacopœia Committee by Dr. Wright in respect to a definition of that substance. Further, the doses of drugs are now given, temperatures are stated in Centigrade degrees with Fahrenheit equivalents in brackets, chemical formulæ are inserted as in the British Pharmacopœia, and the molecular weight is appended to each formula. The interest excited by this paper was increased by the fact that Professor Redwood took the opportunity of stating that the preparation of a new edition of the British Pharmacopœia is now in contemplation. He said that he had little doubt that in it the same system of nomenclature would be adopted as in that of the United States, but he spoke with less certainty as to the adoption of the plan of indicating quantities in parts by weight, although he approved of the system and had himself worked it out years ago. He remarked that with respect to the Pharmacopœia of this country a greater conservatism was exercised by the Medical Council than by the body that controlled the United States Pharmacopœia, since it did not introduce any unproved remedies. The reading of this paper brought the first day's business to a close.



In the evening a visit was made to the picturesque ruins of Netley Abbey by upwards of sixty members and visitors, carriages having been provided by the local committee. The pleasure of the excursion was slightly marred by atmospheric influences, the splendid view of Southampton Water and the opposite coast being nearly destroyed by the driving rain and mist; but notwithstanding this untoward circumstance the trip proved a very enjoyable one, and much interest was excited by the ruins.

On Wednesday morning the proceedings were resumed by the reading of a paper on "Some Reactions of Arsenic," by Messrs. Naylor and Braithwaite. The first portion of the paper was devoted to the results of some experiments made to test a statement of M. Patrouillard, and introduced into some text-books, to the effect that arsenic acid is easily reduced to arsenious acid by the action of oxalic acid. The authors failed to obtain any confirmation of this statement, and expressed an opinion that oxalic acid exerts no reducing action under the condition described by M. Patrouillard. The remainder of the paper was devoted to an account of the method followed in employing the copper-test, which is based upon the fact of the solubility of cupric arsenate in the double tartrate of potassium and sodium, and to a description of the decomposition which takes place between arsenious acid and mercuric salts.

The next paper read was entitled "Some Results of the Action of the Digestive Ferments on Drugs," and was by Mr. G. Brownen. It described the effect produced by solutions of the gastric ferment and pancreatic solutions upon a number of drugs and their preparations. The results obtained suggest that this field of investigation will prove not only interesting but important to the physiologist, though evidently the value of such experiments will be increased in proportion as the conditions under which they are performed resemble those which occur in the human economy. It was pointed out in the discussion which followed that those conditions are very difficult to imitate, especially such of them as obtain in cases of disease, and it was objected by Mr. Plowman that the temperature at which the experiments were conducted ( $50^{\circ}$  C.) exceeded that of the human body. Some little amusement was caused by the prohibition by the President of any reference to such a subject as "vital force," and by the difficulty some of the speakers experienced in their attempts to avoid the veto.

Mr. E. M. Holmes commenced his "Remarks on the Root of *Aconitum Napellus* and Allied Species," by pointing out that although aconite has long been in use in medicine, and is recognized as one of the most powerful of medicinal agents, its internal administration in this country is not so great as might have been expected. This he considers to be possibly due to variation in the strength of official preparations, and without attributing this vari-

ability altogether to the non-recognition in the Pharmacopœia of well-known facts, he says that it appears certain that the requirements of the Pharmacopœia might be complied with, and yet preparations of very variable strength be the result. He points out that the figure of the root referred to in the Pharmacopœia is totally inadequate to distinguish the root of *Aconitum Napellus* from that of other less poisonous species, and that the roots imported from Germany are collected by peasants not possessed of any botanical knowledge, and sold without any guarantee as to the time of their collection. The difficulty is increased by the fact that the numerous aconites are closely allied, the varieties running one into another, whilst a complete series of the members of the genus is hardly to be found for reference in any botanical garden or museum. He, therefore, considered it worthy of inquiry whether the aconites available for pharmaceutical preparations might not be characterized for practical purposes by the effect produced by them when chewed. He found that the roots of several species did not cause a tingling sensation upon the tongue, including some plants which presented the specific characters of *Aconitum Napellus*, though easily distinguishable from it by habit. But all the aconites in which this variation occurred were observed to flower later than the typical *Aconitum Napellus*. He expresses the opinion, therefore, that the only way to secure aconite of good and uniform quality is to limit the official drug to home-grown aconite, flowering in May and June, and gathered while the plant is in flower. He remarks, in conclusion, that aconite is very easy to cultivate, and that, considering the small quantity used, there is no reason why any chemist who has a small piece of garden should not grow his own aconite root. Contrary to what might have been expected after the reading of so practical a paper, no discussion followed, and it may be remarked that the comments made upon the papers read at this meeting, as a whole, were far fewer than in previous years.

"Ammoniated Extract of Ergot and a Process for its Preparation," was the title of the next paper read, which was contributed by Mr. A. W. Gerrard. The process consists in macerating 10 parts of crushed ergot for eight or ten hours, with frequent stirring, in 50 parts of cold water containing  $\frac{1}{2}$  per cent. of strong solution of ammonia, straining through flannel, washing the ergot from time to time with more ammoniacal water till exhausted, evaporating the strained liquor to five parts (any scum or fat arising to the surface being removed), treating the cooled extract with an equal volume of aromatic spirit of ammonia, decanting the clear portion after subsidence, filtering the remainder through felt or flannel and washing the residue with sufficient spirit to bring the volume of the extract to ten parts. One part of the extract, which thus prepared is darker in color than the ordinary form, contains the sol-

uble matter of one part of solid ergot; the average specific gravity is 1000, and the dose is the same as that of the ordinary liquid extract. The advantages claimed for the preparation are that the ammonia not only by its solvent power insures a complete exhaustion of the active principles of the drug, but by its presence in the medicine induces a rapid action by acting as a nervous stimulant. In the discussion which followed it was suggested that the ammonia by forming a soap took up a portion of the oil present in ergot, and thus facilitated the permeation and consequent exhaustion of the drug. The official formula found several defenders, Mr. Greenish being of opinion that water extracts all the active principle from ergot if the oil be previously removed. On the other hand, Dr. Quinlan said that in practice he had found ammonia in a preparation of ergot to be useful as a corrective.

(To be continued).

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## ARTIFICIALLY INCREASING THE QUININE HARVEST

Mr. W. Cochran, Overdale, Dunblane, writes as follows to the *Analyst*:—"Referring to the singular experiments at present being conducted in Ceylon by a Mr. Schrottky with the object of increasing, by a process of inoculation, the quinine in cinchona bark, I have much pleasure in handing you the following corroborative testimony from my brother, Mr. Michael Cohran, M.A., F.C.S., as to the experimental success so far of the suggestion. He writes from Colombo, Ceylon, under date March 24, as follows:—"I have been analysing some cinchona bark for a chemist named Schrottky, who has been trying to increase the percentage of quinine in the bark of trees about to be cut down, by causing them to absorb certain chemicals. He takes a ring of bark off the tree near the root, applies a solution, then, after about eighteen days, the bark is taken off. I analysed two sets of samples from the same trees before and after treatment, the sample being taken from the same height in each case; the increase of quinine was marked while the total alkaloids varied but little.' Should more extended observations confirm this result, it is hardly necessary to add that the pecuniary advantages likely to accrue to owners of well-grown cinchona plantations in Ceylon and elsewhere, will soon prove highly important, and quinine, so necessary a febrifuge in tropical climates, may at no distant date be brought well within the means of even the poorest coolie."—*Chemist & Druggist*.

## SACCHARATED SOLUBLE FERRIC OXIDE.

Dr. Brunnengraeber has furnished the following formula for the new German Pharmacopœia : Dissolve powdered sugar 9 parts in water nine parts ; add solution of ferric chloride (sp. gr. 1·280 to 1·282, containing ten per cent. iron) 30 parts ; afterwards gradually and with continued stirring, a solution, prepared with heat and allowed to cool, of sodium carbonate 24 parts in water 48 parts. When the evolution of carbonic acid gas has ceased, add gradually caustic soda solution (sp. gr. 1·159 to 1·153, containing 15 per cent. of NaOH) 24 parts. When clear, add to the liquid sodium bicarbonate 8 parts and dilute at once with boiling water 600 parts, set aside, remove the clear liquid with a syphon, mix the precipitate twice with boiling water 400 parts ; after subsidence syphon off the liquid ; finally collect the precipitate upon a moist strainer, wash it with hot water until the filtrate is not precipitated, but merely rendered opalescent with silver nitrate, and express. Mix the precipitate in a porcelain dish with powdered sugar 50 parts, evaporate in a steam-bath to dryness, stirring constantly, and triturate the residue with sufficient sugar to make the weight equal to 100 parts.

It in a red-brown powder of a sweet ferruginous taste, contains 3 per cent. of iron and yields with 20 parts of hot water a clear red-brown solution which is not altered by potassium ferrocyanide, but on the further addition of hydrochloric acids yields at first a dingy green, afterwards a blue precipitate. If 2 grams of the powder are ignited, the residue treated with boiling hydrochloric acid, the filtrate oxidized with potassium chlorate and heating, and the cold liquid mixed with 1 gram of potassium iodine, and digested for an hour in a stoppered bottle, the mixture, in the presence of a little solution of iodide of starch, must require from 10 to 10·7 cc. of tenth normal solution of sodium thiosulphate to combine with the separated iodine.—*Arch. d. Phar.*, April, 1882, p. 289—291., in *American Journal of Pharmacy*.

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 PURIFICATION OF SULPHURIC ACID BY CRYSTALLIZATION.\*

Mr. R. S. Tjaden-Maddermann, of Groningen, writes that he has long been in the habit of purifying sulphuric acid by crystallization of the hydrate  $\text{H}_2\text{SO}_4 \cdot \text{aq.}$ , and that this simple method is completely satisfactory. All sorts of impurities, among them lead sulphate, arsenious, and nitric-acids, may be completely eliminated by repeated crystallization. The process hardly needs a descrip-

\* After *Zeit. f. Analyt. Chem.*, 1882, 218. In *New Remedies*.

tion; in brief, it is as follows: The sulphuric acid properly diluted with water,\* contained in glass vessels only filled two-thirds full, is exposed during one night to a freezing temperature in the open air. If the dilution was correct, almost the whole of the acid will be found frozen next day. As it is very important to completely separate the impure mother liquid from the crystals, the author has constructed a centrifugal apparatus, so arranged that both liquid and solid acid only come in contact with glass. By means of this apparatus, the separation of the crystals is easily accomplished. One recrystallization is usually sufficient for separating lead and arsenic, while the higher oxides of nitrogen often require a repetition of the process to remove them.

It is not always easy to obtain a first crop of crystals in a sulphuric acid, owing to some variation in the amount of water; but a once crystallized acid may be recrystallized without any difficulty.

The flask containing it should be set in ice, and, if no crystals make their appearance within an hour, common salt is added to the ice. After another hour or so, crystallization will be found to have commenced.

### GENERAL HINTS TO THE DISPENSER.†

As quickness and despatch are generally considerations in pharmacy, it is advisable to keep some of the more frequently prescribed salts in solution; and a few hints as to the most convenient strengths of these solutions may not be out of place here. Bicarbonate of potash, 1 oz. (troy), dissolved in enough distilled water to measure 4 oz., makes a very suitable stock solution, as  $\frac{1}{2}$  oz. of it contains 1 drachm of 60 grs. of the salt. Chlorate of potash, 1 in 24, made in the same way, is the best strength to suit all variations of temperature. The salt is soluble in a smaller quantity of water, but is apt to crystallize with changes of temperature. Epsom salt, 1 in 2; bromide of potassium, 1 in 3; and chloral hydrate, 1 in 1, make very convenient solutions, the latter particularly so, as each minim represents 1 grain of chloral, and it is stable and easily calculated.

Some of the official pill masses become very hard on keeping, and get so brittle as to be unmanageable; they may, with great advantage, be kept in a dry state, the powdered ingredients being mixed together, so that the menstruum ordered by the pharmacopœia to give consistence, may be added at the time of dispensing. In this way, pil. coloc., co., pil. aloes barb., and socot., pil. aloes et ferri, and pil. Plummeri may be kept with the required propor-

\* Journal of the Amer. Chem. Society. vol. iii,

†From Dr. Whittla's "Elements of Pharmacy, Materia Medica, and Therapeutics."

tions of the requisite menstruum marked on the bottles in which they are contained. This plan is often a great help if the physician happens to order too soft a mass.

Mistura ferri co. can also be kept in a concentrated form, so that every drachm will contain the constituents of an ounce of the mixture, except the sulphate of iron, which is to be weighed out and added the last thing before dispensing. Mist. cretæ can be easily kept in powder, ready for the addition of cinnamon water.

The use of concentrated infusions and decoctions, so often employed by pharmacists, is to be condemned. These preparations should be always made fresh as required. It cannot be too strongly impressed upon the student's mind that substitution should never be practised.

Often the dispenser will be at a loss to understand the meaning of the prescriber, when he orders some preparations out of their official names, and he then must have a consultation, or fall back upon the experience of himself or others. A few examples may be given: When magnes. calc. is ordered, magnesia should be used; when magnes. carb., the heavy preparation is usually intended, when bismuth or bismuth alb. is prescribed, the subnitrate is the preparation generally in the mind of the physician; when aqua menth. is ordered, aq. menth. pip. should not be used, but aq. menth. sativ. is the intention of the prescriber. [?]

Liq. morphiaë is very often written in a prescription, and the dispenser will do well to always employ liq. morph. mur. B. P. ( $\frac{1}{4}$  grain in 1 fl. oz.). When extract aloes is written, the rule should be to use the socotrine.

Much confusion unfortunately exists in the memory of some prescribers about the mercurial chlorides, and fatal consequences have resulted. The subchloride is often written hyd. chlor., hyd. mur., hyd. submur., and the perchloride is occasionally prescribed as hyd. chlor. or hyd. bichlor.

If the dispenser find it impossible to consult the physician in such cases, he will not regret giving the subchloride, if more than  $\frac{1}{4}$  grain is ordered in each dose.

When the physician orders salts, like pot. iod., or roots, like gentain, with directions for their solution of infusion by the patient himself, the dispenser should destroy their identity by the pestle before sending them out. Quinine, for the same reason, if ordered in a mixture without a solvent, should be carefully triturated till the crystals are broken up.

When the pharmacist gets a prescription where incompatible substances are ordered, it is clearly his duty to compound it, unless absolutely incompatible, in which case the different ingredients will not mix, and, then, if possible, he should consult the prescriber. Instances of such might be given to fill a large volume,

and unfortunately no rule can be laid down for the guidance of the young dispenser, as it is still an open question with pharmaceutical authorities whether a compounder is justified in altering a prescription, suppose he find the emulsifier or pill excipient ordered by a medical man unsuitable. Much will depend upon his knowledge of, and his relation to the prescriber; but where a consultation is impracticable, the dispenser must rely upon his past experience.

Perhaps the greatest difficulty will be met with in the case of pills. A commonly ordered pill is one containing  $2\frac{1}{2}$  grs. of sulphate of iron, and  $2\frac{1}{2}$  grs. carbonate of potash. Any liquid added to this would promote decomposition, and experience proves that a little vaseline and cacao butter make an excellent excipient. Iodide of potassium is often ordered in pills, and may be made up by rubbing the salt with a few drops of water into a stiff, smooth paste, and working it into a good mass by the addition of a little licorice powder; in this way six grains may be easily got into a fair-sized pill. The proportions of water and licorice are not given, as they entirely depend upon the samples of iodide, which vary considerably in their suitability for making pill masses.

Phosphorus is occasionally ordered to be made into a pill, *secundem artem*, that is, in whatever way the dispenser thinks best. It should be dissolved in bisulphide of carbon, and whilst solution is being effected, two or three drops of chloroform may be added, which produces a heavy vapor around the solution, and prevent the oxidation of the phosphorus by the atmospheric oxygen. A little licorice powder may now be added, and the mass quickly made into a workable form with tragacanth paste, divided into pills and coated.

Carbolic acid (Calvert's pure crystalline) may be easily made into pills with wheaten flour, in the proportions of  $1\frac{1}{2}$  grs. flour to 2 grs. of acid.

Permanganate of potash can be made into pills with cacao butter.

Camphor, after being powdered with a few drops of spirit, makes a nice mass with tragacanth paste. Three grs. of powdered acetate of potash may be made into a suitable pill with Canada balsam, and will remain stable.

Powdered pill or extract of colocynth may be easily worked into a mass with a few drops of decoction of aloes.

Croton chloral should not be treated with the tragacanth paste, which dissolves it, and causes the pills so made to flatten. It is best worked up with a little confection of hips and thick mucilage.

Sulphide of calcium, now much ordered for acne, should be mixed with an equal quantity of sugar and milk, and after careful trituration, as much powdered decorticated licorice root added as

will make the weight up to say a grain or more. The mass can now be easily worked up with a little tragacanth paste. Sugar of milk makes the best powder to aid the subdivision of an active substance, and the powdered decorticated root of licorice is the best inert powder for making up pill masses, as it is so fine and impalpable that it does not make a crumbly pill like powdered gentian.

Citrate of iron and quinine makes a good pill with the tragacanth paste, but it will not remain hard as the salt is deliquescent.

Copaiba can be made into firm pills, which keep their shape by adding a very small quantity of carbonate of magnesia to it. Powdered rhubarb makes a good mass with one-fifth its weight of glycerin. Gallic acid, 5 grs., and glycerin,  $\frac{1}{2}$  drop, make a good pill. Four parts of quinine and one of tartaric acid, with q. s. of tragacanth paste, make a very excellent mass.

Chlorate of potash and hypophosphite of lime rubbed together explode, and may cause injury to the dispenser.

Creasote, if ordered with oxide of silver in a pill, will explode unless the oxide be first diluted by trituration with some inert powder, like licorice or gentian, before adding the creasote.

Borax, powdered and rubbed up with mucilage, forms a soft powder like moist sugar, which cannot be made liquid by the addition of any further quantity of mucilage; and acetate of lead, similarly treated, makes an opaque white jelly.

Spirit of nitre will generally require to be neutralized with bicarbonate of Potash before being compounded with bromide or iodide of potassium, otherwise free Bromine or Iodine will be liberated, and the mixture darkened.

Subnitrate of bismuth is often ordered in a mixture with bicarbonate of soda, and unless very great care is taken in compounding them, by permitting decomposition at a gentle heat, carbon dioxide will be produced, and the bottle will burst. This may be prevented by using an equivalent quantity of the subcarbonate of bismuth.

Pessaries and suppositories containing green extracts may be readily made by first rubbing the extract with powdered castile soap in about one-fifth part of the bulk of the whole pessary or suppository, and supplying the remainder of the basis with cacao, when the mass can be worked up like a pill in a mortar, and shaped by the fingers, or thrust into moulds previously dusted with powdered starch.

Chloral hydrate can be made into a suppository by digesting it on a water-bath in cacao butter, in which it is soluble.

In conclusion, it may be mentioned that, when a prescription is repeatedly compounded, the patient often asks for the dose to be increased, or some other change to be made, and the dispenser is



warned not to accede to such a request, no matter how simple it may appear, without a consultation with the prescriber ; nor is it advisable for him to inform the patient (even when pressed) of the ingredients in any prescription. He can refer them to the physician, or do as the writer has done long ago when it was impossible to avoid such a revelation—read it in full Latin to the patient. It need hardly be mentioned that, in the case of repetitions of medicines of all kinds, they should invariably be dispensed in fresh bottles or vessels, and have new labels attached in every instance, though old ones may seem scarcely soiled. Breach of this law is certain to soon get the dispenser into disrepute.

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## Editorial.

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### COMPOSITION OF BAKING POWDERS.

A report of the composition of the principal baking powders in use in the Dominion was published some time ago in the *Toronto Mail*, but as we like to get information of this kind from the original source we have not until now been in a position to discuss the subject. From a communication from Dr. Ellis, Public Analyst for this district, we learn that a qualitative analysis of six samples of the popular brands of these powders revealed the fact that three of them, "Cook's Friend," "Bon Ton," and "Pure Gold," were composed of tartaric acid, bi-carbonate of soda, and flour or corn starch. The three others, "Cook's Own," "Ontario," and "Standard," were made with phosphate of lime and alum, as representing the acid constituent, and bicarbonate of soda, with the usual diluent, corn starch.

The question arises whether from a sanitary point of view the use of phosphate of soda and alum in bread is admissible. Considering the large quantities of baking powder consumed, this point is of very great importance. If these substances are injurious the health of the people must suffer to an alarming extent, and it would be the province of the Government to interfere, as was long ago done in England, with reference to the use of alum by bakers.

Detailed attention has been given to this subject in the United

States, and a great deal of evidence was at one time taken, when a case of infringement of patent was brought before the courts. Still, as far as our memory goes, we do not think that any decision was arrived at as to the physiological effect of the phosphate. In giving an opinion on the subject we cannot see that the use of a phosphatic salt can be injurious unless directly contraindicated by disease. In some respects such an addition might be beneficial by increasing the phosphates already contained in wheat; and speaking generally, such an addition appears to be decidedly less objectionable than a tartrate, which is quite foreign to the nature of bread.

We must remember that the reaction of the chemical substances used in these powders gives in the case of tartaric acid and soda, or cream of tartar and soda, a tartrate of soda or double tartrate of potash and soda, as the case may be; while the phosphate mixture gives rise to phosphate of soda, phosphate of lime, sulphate of soda, alumina, and possibly traces of undecomposed alum, with ammonia salts—for ammonia alum is in all cases employed for this purpose. It is claimed by the manufacturers of the latter class of baking powders that all the alum is decomposed, and not a trace of it remains in the bread after baking. Whether this is the case is an important matter to decide.

The acid phosphate of lime is largely made in the United States where it is sold as "cream of tartar substitute." It is manufactured from bones, by the aid of sulphuric acid, and not only contains the acid phosphate, but some free phosphoric acid taken up and retained by the normal phosphate, and perhaps by an absorbent powder purposely added. The alum is principally made by one firm. It is, as we have said, ammonia alum, and is deprived of its water of crystallization, or "burnt," before being powdered.

Some vendors of private formula—than whom as a class there are few greater impostors—have during the past year or two reaped a good harvest from gullible persons by selling recipes for these powders. Sometimes they agree to supply the phosphate, which is usually designated by a false name, as "victor acid," and the alum for prices greatly in excess of their market value. The price of the former, in quantity, is about one-third or one-fourth that of cream of tartar, and the alum of course, is still cheaper.

There is one point from which this question may be viewed quite distinct from its sanitary aspect, and that is that people who buy and use baking powder believe that they receive a tartaric mixture, or, at least, a compound that time has proved to be practically harmless, and which is accepted as being wholesome. This has not yet been clearly shown to be the case with the phosphatic mixture, and until it is so the public should not be kept in the dark as to the matter.

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## ONTARIO COLLEGE OF PHARMACY.

### OPENING OF THE SESSION.

The term of the Ontario College of Pharmacy commenced yesterday, a large number of students and friends being in attendance. The opening address was delivered by Professor Shuttleworth, who traced the course of pharmaceutical progress, more especially as far as Ontario is concerned. The Act of Incorporation of the College was obtained in 1871, and since that time the *status* of the members has steadily improved, and by the rigorous examinations instituted the public have derived no slight benefit and protection. The lecturer alluded to recent pharmaceutical enactments in European countries as well as in the United States, and said that Ontario was in this respect more happily favoured than many others, inasmuch as while the public safety was duly regarded, the law was not expensive to administer nor oppressive to other branches of trade. Dr. May, of the Education Department of Ontario, then made a few appropriate remarks on the subject of pharmaceutical education, and spoke of the progress made since the incorporation of the College. With the present admirable facilities the Ontario druggist had an opportunity which he did not possess a few years ygo of getting a thorough scientific training. Professor Rose commented on the remarks of previous speakers, and drew attention to the necessity of the cultivation of careful habits in dispensing poisons. The recent poisoning case clearly showed that none but qualified persons should be allowed to dispense dangerous medicines, and this could only be assured by subjecting those concerned in their sale to systematic training and education. Prof. Smyth, of Trinity College, gave some good advice to the students present, and cautioned them particularly against any attempt at "cramming," which, while promising advantages, only ended in injury. Knowledge could only be imparted and received slowly, otherwise it left no permanent

impression on the mind. The session terminated at noon, and this morning the students enter upon their regular studies.—*Toronto Globe*, Oct. 11th.

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### MONTREAL COLLEGE OF PHARMACY.

The winter session of this College commenced on Tuesday, October 3rd, at the rooms, McGill Street, with a good attendance of students and very fair promise of an interesting term :

Mr. H. R. Gray, upon whom devolved the task of delivering the opening address, gave an interesting account of the inception of the College, and the causes which led to its being established, and finally incorporated by the Act of Parliament, giving at the same time a *resume* of the subject matter of the session lectures. He reviewed at some length the condition of pharmaceutical education in Europe and on this continent, contrasting the superior facilities of the present day with the scant opportunities afforded to students of pharmacy thirty years ago. In concluding his address, Mr. Gray made a few well-timed remarks on the benefit which the young men were likely to derive from an honorable and straightforward discharge of the duties laid upon them.

Mr. Gray sat down amid prolonged applause, and his address, which was listened to with special attention, bore evidence of a thorough acquaintance with the subject he had in hand—"Pharmaceutical Education."

Dr. Reed then made a few appropriate remarks, commending Mr. Gray's address, and urging the students to a vigorous application to their studies.

He was followed by Mr. D. Watson, who humorously referred to his own experience in Scotland as an apprentice to the drug business, and detailed some of the hardships which the youth had to encounter who in that land some thirty years ago desired to study pharmacy.

Mr. Bemrose then drew attention to the difficulties in the way of a more perfect curriculum, and better results, which the College had to contend against in the absence of facilities for the study of practical chemistry. He expressed the hope that the time would come when such obstacles would be removed.

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By heating together equal parts of borate of soda or calcium and glycerine, Le Bon says that an antiseptic, similar to boric glyceride may be produced. It is so non-irritating that a strong solution may be applied to the eye.

## Editorial Summary.

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ACCORDING to a paper read by Mr. G. W. Kennedy at the meeting of the American Pharmaceutical Association, the quality of commercial mercurial ointment in the United States is by no means up to the standard—50 per cent. Of fifteen samples examined, only one contained this quantity of mercury, and five ranged from 21 to 26 per cent.

A QUERY as to the freedom from carbolic acid of creasote found in the American market was answered by Professor Bedford at the meeting of the Am. Pharm. Assoc., who reported that the quality of the creasote now supplied is excellent—only two out of many samples containing phenol—the price moderate and the supply abundant.

THE Kingston correspondent of the *Mail* says that a druggist in that city states that during last year he sold about 30 pounds, or 480 ounces, of opium. An ounce will poison fully 30 people, so that the quantity disposed of during 1881 would be sufficient to put an end to no less than 14,400 persons, or about the entire population of Kingston.

MR. J. L. LEMBERGER, in a paper read before the American Pharmaceutical Association, detailed results of experiments made to ascertain whether Mr. Gerrard's statement—that continental oil of thyme would yield as much as half its weight of thymol—is applicable to the oil of thyme found in the American market, and came to the conclusion that very little of this oil is pure, and has probably had the thymol separated before being offered for sale. Of nine lots, one yielded over 50 per cent.; two, 42 per cent.; one, 16 per cent., and the balance ranging as low as 1.67 per cent.

THE testing of jalap root by assaying for resin is not reliable except carried to a tedious limit, as every tuber must be examined. Hager (*Pharm. Centralh. in New Remedies*) proposes to overcome this difficulty by testing the specific gravity of the tubers, which should range above 1.150. This can be easily and quickly

determined by dropping the roots into a solution of common salt of a specific gravity of 1.140, and rejecting those that float. To prepare this solution 200 parts of dry commercial salt are dissolved in 1.055 parts of water, The temperature should be from 15 to 17° C.

AN Italian journal gives some interesting particulars in regard to an examination of a reddish violet coloring matter found as a deposit from water contained in the tomb of St. Ambrose, at Milan. It is supposed that the water extracted all the color from the vestments in which the body of the great father was clothed when the interment took place, in the ninth century, and that probably the color might turn out to be the celebrated purple of Tyre or some other ancient dye. It was, however, found that the color was composed of indigo and lac, very much as used at the present time.

It is well known that articles of vulcanized rubber in time becomes hardened on the surface, and are thus often spoiled. M. Hempel, a German chemist, announces the fact that this may be prevented, and old rubber restored, by leaving the article in a tight vessel the air of which is saturated with bisulphide of carbon. Kerosene answers well, but is slower in action, and much less disagreeable in odor. A saucer of kerosene may be placed in the bottom of a metallic or glass vessel, so that the vapor may ascend and saturate the air of the vessel above, in which the rubber articles are exposed.

A CORRESPONDENT sends the following recipe, lately recieved, and suggests that the deciphering of such should form part of the college examination: "25 cents worth queen an put into a botel, half tecup ful water relixs of viteral Dos one teaspoonfl 2 onces of valearin root 2 onces gincin root 2 onces of quachy 1 ounce of cloves in 2 galleons water." This is about on a par with the following, furnished by a city druggist, and may indeed emanate from the same physician: "Thrupens ech a legs aviterol fryrs bolson sweat natur an bolson a peevy in a nogen a jin shake three times a day a tayspunfil.

A WRITER in the *New Orleans Medical & Surgical Journal* who has had considerable experience in the use of Coto Bark and its

preparations, says that a great proportion of the tinctures and fluid extracts of this drug to be found in the market have been prepared with paracoto bark which does not at all represent true coto bark. The latter is strongly aromatic and astringent, and its preparations have a very sharp peppery taste, so that they cannot be administered unless much diluted with syrup and mucilage. The writer believes that the medical profession will soon find in coto bark a valuable therapeutical agent, and take it up, after being disgusted with paracoto bark and its preparations.

MR. J. H. FEEMSTER (paper read before Amer. Pharm. Assoc.) found five samples of guarana to contain caffeine in quantities ranging from 3.9 to 5 per cent. The best process for extracting this alkaloid was stated to be that recommended by Prof. Wayne, (*Amer. Jour. Pharm.* p 135, 1875.) A menstruum for fluid extract of guarana consisting of alcohol 3, glycerine 4, and water 5, yielded a good extract in appearance and quality, but in a few months a precipitate was deposited that contained crystals of caffeine. An increase in alcoholic strength gave a more permanent preparation and a menstruum composed of half alcohol and one-fourth each of glycerine and water was recommended.

IN a paper in the *Chemist and Druggist*, Mr. J. Woodland points out the fact that the resemblance between primrose and digitalis leaves often leads to the accidental substitution or admixture of the former with the latter. In the fresh plant the difference in the apices of the leaves—the primrose being rounded and the digitalis acute—is quite characteristic; but in the dried leaves this is not so easily distinguishable. Digitalis leaves, as occurring in commerce, are thick, crisp and brittle; those of the primrose thin, flaccid, and bendable. The former show colorless reticulations when held up to the light, while those on the latter are dark brown. The lateral veins of digitalis are confluent for some distance from the midrib, but in the primrose they terminate at the midrib.

A GAUTIER (*Comptes Rendus in Pharm. Jour & Trans.*) says that a solution of pepsin from the sheep, if twice filtered through paper, loses about half its digestive power. The insoluble portion left on the filter, when washed, consists of rounded corpuscles about one-twelfth the diameter of the globules of beer yeast. In

presence of dilute hydrochloric acid they have six times the power of the unfiltered solution of dissolving fibrin, but the digestion is not complete, intermediate products being formed. The insoluble granules, in presence of pure water are slowly converted into the soluble variety. Bechamp called these insoluble granules gastric microzymas, but Gautier could find in them no trace of organized structure, nor do they propagate under the most favorable conditions. Besides this they act only in presence of free acids, while bacteria and their germs require a neutral or alkaline medium.

CHINOLINE, or leukoline as it was formerly called, is a constituent of coal-tar and Dippel's oil, and may be prepared synthetically by treating anilin or nitrobenzol with glycerine in presence of a dehydrating agent. The alkaloid is an oily liquid boiling at  $255^{\circ}$  C., is soluble in alcohol, ether, chloroform and forms salts with acids that are generally crystallizable with difficulty. The tartrate is, however, an exception, as it may be obtained in tolerably good form. It is permanent—is soluble in water, has an odor recalling bitter almonds, and a taste like peppermint. It is claimed that chinoline in therapeutical action is perfectly analogous to quinine, and a number of trials afford confirmatory evidence of this. An American firm are now offering the tartrate for medical use, and it is being experimented with in many places; among others, in Toronto, and can be procured from our wholesale houses here. The price is about three-fourths that of quinine; and the dose of the salt is from four to sixteen grains per day.

A. RICHE, of France, has devised an apparatus for the purification of alcohol which is said to be of practical use, and to increase very materially the yield of pure alcohol, whether used for the crude spirits from corn or other grain, or beet molasses. This he effects by a process of hydrogenation carried out by means of a copper-zinc couple. Zinc cuttings are placed in successive beds of a few inches in thickness supported on wooded diaphragms, pierced with holes and placed in a suitable vat of wood or metal. To commence the operation a sufficient quantity of 5 per cent. solution is run into the vat. The liquid loses its blue color, the copper being precipitated upon the cuttings. These form the necessary galvanic couples. The solution is run off, and the



alcohol of 40 to 65 per cent. which is to be purified is run in, and kept circulating in the vat. The evolution of hydrogen commences, and may be accelerated by heat. When the hydrogenation is complete the alcohol is passed on to the rectifier. Those who are specially interested in this subject will find in the *Pharm. Jour. & Trans.* for August, or *Amer Jour Pharm.* for October, a translation from the *Journal de Pharmacie*, in which the process is treated in detail.

A TRANSLATION of a paper by M. Tanret, in the *Pharm. Jour. & Trans.*, confirms the common belief that organic acids do not form definite salts with caffeine, but merely augment its solubility in water. The so called citrate of caffeine is only a mixture of alkaloid and acid. With mineral acids the conditions are different. Sulphuric acid forms a salt that is crystallized with difficulty. Hydrochloric and hydrobromic acid yield very fine crystallized salts, but they are not stable and are decomposed by water, and readily altered by the air. The acid with which caffeine is naturally combined in coffee was tried by the author but on account of the difficulty of obtaining it, and the unstable character of a solution of the salt, it was not thought eligible for hypodermic use. The apparent similarity that exists between chlorogenic, the natural acid of coffee, and benzoic, cinnamic, and salicylic acids led M. Tanret to think that perhaps double salts of caffeine might be formed analagous to Payen's salt. This supposition turned out to be correct. Cinnamate of soda in water dissolves caffeine equivalent for equivalent—170 parts cinnamate for 244 of caffeine. The double salt contains 58.9 per cent. of the alkaloid. Benzoate of soda and caffeine contain for two equivalents of benzoate of soda, (288) one of caffeine (244). A double salicylate of soda and caffeine contains 61 per cent. alkaloid. These salts are all of easy solubility and suitable for hypodermic injection. Commercial benzoate of soda has sometimes an alkaline reaction, which should be corrected by the addition of a little acid before the caffeine is added.

SOME chemists have maintained that a solution of oxychloride of iron may be directly made almost if not quite identical with dialyzed iron. Dr. C. Schacht, of Berlin, proposed a formula for such a solution, which was published some time ago in *New Rem-*

*edies.* In the last number of this periodical, Dr. Hirsch, of Frankfurt, is made to say that the preparation made by Schacht's formula is not identical with dialyzed iron, and various reasons are assigned in support of this statement. It appears, however, from advance sheets of the new German pharmacopœia, received by the editor of the above-named journal, that this authority has adopted Schacht's corrected formula, and embodied a preparation called *Liquor Ferri Oxychlorati*, to be made by the new method. 35 parts of solution of ferric chloride, s. g. 1.280, containing ten per cent. of iron, are diluted with 160 parts of water, and poured into 35 parts of liquor ammoniæ, s. g. 960, previously diluted with 320 parts of water. The resulting precipitate is washed, pressed, and 3 parts of hydrochloric acid, s. g. 1.124, are added. The mixture is allowed to stand three days, then warmed gently until the precipitate is dissolved, and finally adjusted till of s. g. 1.050. The product is brownish red, clear, faintly astringent, and contains 3.5 per cent. of iron. A cubic centimetre mixed with 19 times its bulk of water, and one drop of nitric acid, should remain clear when mixed with 2 drops of a tenth-normal solution of nitrate of silver. It is also stated that if dialyzed iron is ordered the new preparation may be substituted.

THE lily of the valley, *Convallaria majalis* has been employed from time immemorial among the Russian peasants as a certain remedy for dropsy. During the last few years the attention of physicians and chemists has been drawn to this popular belief, and the plant has been made the subject of numerous experiments. Translations of two papers on this subject—one by A. Langlebert, and the other by G. See—appear in a late number of the *Pharm. Jour. & Trans.* From these we learn that though the remedy is one of undoubted value, all the parts of the plant are not of equal efficacy, nor of precisely the same therapeutical properties. The best results were obtained with an aqueous extract prepared from the flowers and stalks, with the addition of a third of their weight of the roots and leaves. This extract is solid in consistence, black, possessing a bitter taste, soluble in all proportions in water and alcohol, and with an agreeable odor. It was used in the form of an aromatized syrup containing 50 centigrams of extract to the tablespoonful, and in doses of 2, 3, or 4 times this quantity it was found useful in cardiac affections. Professor See classes the preparations of this plan in the following order of merit: (1) aqueous extracts of the leaves, which require a dose three times as large as that from other parts of the plant. (2) Extracts of the flowers, which exercise upon animals a very energetic action, and, upon man, a much less intense one. (3) Extracts of the entire plant. The dose of the aqueous extract is stated at from one grain to even two grains of the extract of the flowers, or of the entire plant; extract of the leaves was only active in double this

dose. The plant contains two glucosides, convallamarin and convallarin, an alkaloid named maialine, an acid, essential oil, coloring matter, and wax. The activity resides in convallamarin and maialine; convallarin appears to be nearly inert. Several chemists assert that the plant contains a resinous purgative principle, analagous to scammony, as an alcoholic extract produces brisk purgative effects. It is desirable to eliminate this principle from the preparations intended for cardiac affections, and it was found that the aqueous extract was free from it. Walz, quoted in the National Dispensatory, says that convallarin is the acid, and presumably the purgative principle, as it is soluble in alcohol. Fluid extract of lily of the valley is manufactured in Canada, and the United States, but for what purpose it is used we are unable, with certainty, to state. It is made from the root, and with an alcoholic menstruum. If the later experiments above noticed are correct, the worst possible selection has been made, both in regard to the part of the plant employed, and the treatment it receives.

FROM an article in the *Lancet* we learn some interesting particulars of the experiments of Arloing, Cornevin, and Thomas, on the influence of various disinfecting agents on the virus of symptomatic anthrax. The experiments were conducted at Lyons, and are detailed in the *Lyons Medicale*. The test of virulence was by hypodermic injection, and it was found that the pulp from the tumors, if dried slowly, at a temperature of 35° C., retained all its powers for at least two years. A few grains of this residue mixed with a little water was quite as active as fresh virus. Again it was found that the disinfectants which destroyed the power of the dried virus were capable of killing the germs in the fresh virus, but the converse did not hold good. The following substances were found to have no action on the fresh virus: alcoholic solution of camphor or carbolic acid, glycerine, ammonia, and ammonia salts, benzine, chloride of sodium, quicklime, lime water, polysulphide of calcium, chloride of manganese, sulphate of iron, borate of sodium, tannic acid, sulphate of quinine, hypophosphite of soda, monobromated camphor, turpentine, sulphurous acid, and chloroform. Solution of oxalic acid, permanganate of potassium, sodium hydrate, chlorine, and sulphide of carbon destroyed the activity of the fresh virus but were without effect on that which had been dried. The latter was only affected by a two per cent. aqueous solution of carbolic acid, salicylic acid, (1 in 1000); nitrate of silver, (1 in 1000); sulphate of copper, (1 in 5); boric acid, (1 in 5); saturated salicylic alcohol, corrosive sublimate, (1 in 5000), and bromine vapor. Thus it was proved that many substances that enjoy a considerable reputation as disinfectants were ineffectual, at least for this purpose. The fact previously noticed by Koch, that a two per cent. aqueous solution of carbolic acid destroyed many germs, while if mixed in

alcoholic solution it was harmless, received confirmation. With regard to the practical results of this inquiry it may be said that for destroying the fresh virus bromine vapor affords the most security. For washing down stables, &c., corrosive sublimate is effectual, but rather dangerous; a solution of sulphate of copper, carbolic acid or salicylic acid is therefore recommended. For the sure destruction of infected carcasses no agent should be trusted save combustion, though if this is not possible a liberal treatment with the last named disinfectant should be tried. It would be extremely desirable if a series of experiments like these could be carried on with regard to the virus of scarlet fever and other diseases which are not transmissible to the lower animals. The results would be invaluable to the human race, and there is no doubt that considering the number of earnest laborers now in this comparatively new field, the science of medicine will be much simplified and many diseases stamped out.

## Correspondence.

### THE LATE COUNCIL MEETING.

*To the Editor of the Canadian Pharmaceutical Journal.*

SIR,—The letter in your last issue, upon the recent Council meeting over the signatures of Messrs. Wm. Saunders and L. W. Yeomans, has doubtless been read with some interest by every member of the Ontario College of Pharmacy, and, for its cool mis-representation of facts, is especially interesting to the members of the Council Board.

These gentlemen, seeming to fear that members of the College will "construct" their absence into neglect of duty; state a grievance which is quite imaginary, and facts which are simply mis-statements.

Now, Sir, what is the sum and substance of this imaginary grievance?

Simply this, that a majority of the Council Board decided in favor of an adjournment, from 12:10 p. m., of the second day of meeting. to 9 o'clock a. m., of the third, and last day of the session. Their language is "on Thursday, the 3rd, after a brief morning session of less than two hours an adjournment was forced by a majority of one *until the following day*, in order, as some expressed themselves, that they might have a good time."

The first mis-statement appears in the *length* of that day's session, as, in the proceedings as published in your journal it can be seen it extended *over* two hours.

When they say the adjournment was *forced*, I am at a loss to understand what they mean.

How was it forced? By whom was it forced? Who was forced to vote for it?

If, in every case, where a measure is adopted by a majority of one, that measure can be said to be *forced*, then there has been more than one measure forced through since I have had the honor of sitting at that Board, and, I take it, that the foolish precedent which Messrs. Saunders and Yeomans are endeavoring to establish of penning protests, and asking to have them appear in the minutes of the Board, is neither customary in any other governing body nor in the interest of the College.

I point for instance, to page 242 of the March, 1882, number of the journal, where the yeas and nays were called for upon the resolution, "That this Council are of the opinion that the provisions of the Pharmacy Act should be enforced in their entirety."

If, because this was adopted by a majority of one, it was forced, then it is clear to one that that kind of force will require to be used so long as these gentlemen sit at that Council Board, for I say, advisedly, that more actual work of this kind is required, and less of such a factious opposition as Messrs. Saunders and Yeomans give to measures that are clearly in the interest of every druggist in the Province. As to the (mis)-statement about the "good time," I question very much if such a statement was made in any other than a jocular manner, after the adjournment was carried. It certainly was not made by the mover of the motion, who gave good and sufficient reasons for its adoption, principal among which were (1) That it was impossible to complete the business of the session that afternoon, because (as can be seen by referring to the published proceedings) not only was the exhaustive report of our late much lamented Chairman of the Infringement Committee to be submitted, but the reports of the Registration Committee and auditors had to be dealt with, and other new business taken up. (2) That as the heat was very excessive it was wise to adjourn to an earlier hour than usual on the following day.

As a proof of the amount of work done on the day following the adjournment, I beg to refer to the proceedings (published in the journal) which show that the Council was called to order at 9:10 a. m., and adjourned at 4:20 p. m., allowing a very short intermission for lunch.

We read again in that precious production "The adjournment was entirely uncalled for as the reports which should have been next taken up were ready for presentation."

The gentlemen may have considered the adjournment uncalled for, but, as a matter of fact, all the reports were *not* ready for presentation.

Now, Mr. Editor, as to "unnecessarily taxing the funds of the College."

Suppose, for the sake of argument, that a half day *was* spent at the expense of the College.

There were twelve members receiving pay at the rate of three dollars per day, which would amount to just eighteen dollars for the half day.

Now, let us look into Mr. L. W. Yeomans' account with the College, and see whether he has not "unnecessarily taxed the funds of the College" to a greater extent during the present year. Here it is:

1882 February—	Fee as Examiner.....	\$20 00
"	Mileage as Examiner .....	9 10
"	Fee attending Council two days .....	6 00
"	Mileage .....	9 10
1882 August	Fee as Examiner.....	20 00
"	Mileage as Examiner .....	9 10
"	Fee attending Council two days .....	6 00
"	Mileage .....	9 10

It will readily be seen that the amount which this gentleman has received for mileage exceeds that which he insinuates was squandered by those who supported the motion for adjournment. To the credit of Mr. Saunders, it is on record, that he has refunded fees to the College which he felt he was not entitled to, I therefore cannot refer to him as I do to Mr. Yeomans in this respect. I would remind Messrs. Wm. Saunners and L. W. Yeomans that the recent session of the Council is not the only three days' session on record.

In February 1880, and again in August 1881 there were three days' sessions, and as the business of the College increases it is reasonable to assume that the work will in time require even *more* than three days.

At the last mentioned session a motion for adjournment was carried under similar circumstances, and I am pleased to state it was supported in both speech and vote by the oldest and most-valued member of the Council.—I refer to Mr. Elliot, *vide*, page 33, September, 1881, journal.

In conclusion, Mr. Editor, I feel it necessary to apologize for the length of this communication. It would not have been so lengthy had I not recently understood that Mr. Yeomans, after the session, published his grievances in a Belleville paper, a copy of which he did not send me, and as he doubtless ventilated his charges in full, a brief letter would not have been a sufficient reply.

I am yours truly,

STAYNER, Oct. 25, 1882.

W. B. SANDERS.

#### BOOK NOTICES.

ON SLIGHT AILMENTS: their Nature and Treatment.—By LIONEL S. BEALE, M. B. F. R. S., etc., etc. Second edition, enlarged and illustrated, Philadelphia, P. Blakiston, Son & Co., 1882: octavo pp. 283; cloth, \$1.25.

The course of lectures embodied in this work was designed to show the necessity of paying attention to those slight departures

from the normal state of health, which, in many instances, are but the precursors of more serious morbid changes. While the importance of this subject is fully established; the treatment of these minor ailments is fully entered upon and elucidated in a thoroughly practical manner. The distinguished author and lecturer of King's College is eminently fitted to perform a task of this kind, and has succeeded in producing a work which is not only suited for the physician, but by its easy plain and readable style can be understood and appreciated by all classes of intelligent persons.

The scope of the work can be judged in some measure by the table of contents, which embraces the following subjects:—The Tongue in health and in slight ailments: Appetite, Nausea, Thirst, Hunger, Indigestion: its nature and treatment: Constipation, Diarrhoea, Intestinal worms, Vertigo, Giddiness, Biliousness, Sick Headache, Neuralgia, Rheumatism: on the Feverish and Inflammatory state, Actual changes in Fever and Inflammation, and common forms of Slight Inflammation.

It must not be supposed that so eminent a microscopist as Dr. Beale could allow the germ theory of disease to pass without expressing an opinion on the subject, and while leaving it as an open question as to whether there are not "Bacteria and bacteria, organisms altogether apart from the harmless bodies so intimately associated with the tissues and fluids of every one of us"—expresses a very decided view as to ordinary bacteria, fungi, and such like low organisms being disease producing agents. This may be judged by some remarks on "Dust and Disease," in which the author says, "The dust which causes disease is of a most exceptional kind. It has been said that the air of the Swiss mountains is devoid of Bacteria. But is the health and vigor of the inhabitants of the Alps to be compared with that of the workers on the Paddington dust heaps? As a fact, ordinary bacteria are harmless enough, they exist within us without disturbing us in any way."

The publication of this revised edition is simultaneous with the London edition, and has been authorized by Dr. Beale.

**ESSENTIALS OF VACCINATION**; a compilation of facts relating to Vaccine Inoculation, and its influence in the prevention of Small Pox; by W. A. HARDAWAY, M.D., Chicago, JANSEN, McCLURG & Co., 1882; small octavo, pp. 146; cloth, \$1.00.

The author, who has had considerable experience as a vaccinologist, designed this work for the immediate wants of physicians rather than as a comprehensive treatise. It contains a careful compilation of facts relating to vaccination, arranged in such a manner, and so concisely put as to be very handy for those who have not time to make a special study of the subject.

The author leans very strongly to the side of bovine virus, and

gives all the necessary practical directions for its propagation, preservation, and application. He does not, however, neglect, or advocate the abandonment of humanized virus, which is as fully treated as that from the cow, but holds that the latter has advantages over the former, not the least of which are the more complete protection that it affords, and the freedom from liability of transmitting diseases peculiar to the human subject.

The physician will find this little manual a very handy help in his practice, and those engaged in the propagation and sale of lymph may peruse its pages with great benefit.

**NITRO GLYCERINE as a remedy for Angina Pectoris.** By WILLIAM MURRELL, M.D., etc., Lecturer on Materia Medica and Therapeutics, at the Westminster Hospital, London, England. Detroit, Mich., U. S. A., GEORGE S. DAVIS, 1882; small octavo, pp. 78; cloth, \$1.25.

The author reviews the literature of this subject, and then enters on a detailed account of the effect of the drug, which was carefully observed in twelve cases of heart disease in which it was administered. Records of many other cases are given, in many of which nitro-glycerine proved decidedly useful. A one per cent. alcoholic solution is highly spoken of as suitable for administration, and the medicine was also found effective in pill form.

Some interesting illustrations of sphygmographic tracings, under the influence of nitrate of amyl and nitro-glycerine accompany the work.

**DISEASES OF THE RECTUM: THEIR DIAGNOSIS AND TREATMENT.**

By WM. ALLINGHAM, M.D., Surgeon to St. Mark's Hospital, London, Eng., etc. Fourth Edition, enlarged and revised; with illustrations. Philadelphia: P. Blakiston, Son & Co., 1882. Octavo, pp. 168. Paper, 75c; cloth, \$1.25.

This is one of the series of standard medical books now being issued by the above publishers. The favor with which it has been received, as shown by the rapid sale of three large editions, and the issue of a fourth, is, in itself, sufficient evidence of the value of the work, and its appreciation by medical men, for whom it was, of course, especially intended.

The subjects include Fistula, Hemorrhoids, Painful Ulcer, Stricture, Prolapsus, and other forms of rectal disease, with which the author has had a vast experience in his hospital practice. To the general practitioner this work has already proved exceedingly useful, while to the specialist in these diseases it is simply invaluable.

BLAKISTON'S PHYSICIAN'S VISITING LIST for 1883, Toronto, N. URE & Co., is now ready, and will be found a very



acceptable little Christmas present from druggist to doctor. Besides affording space for the daily record of 28 cases per week, addresses, accounts, obstetric engagements, record of births and deaths, etc., etc., it contains a very useful posological table in apothecaries' and metric systems, tables of signs, weights and measures, a list of poisons and antidotes, and a table for calculating the period of utero-gestation. A pencil and pocket are contained within the covers, and the binding is strong and serviceable.

## Practical Formulæ.

### HOP CORDIAL—(tasting like Hop Bitters.)

	Parts.
Hops, dandelion, gentian, chamomile, stillingia, orange peel, each.....	2
Alcohol .....	64
Syrup ... ..	16
Water ... ; .....	76
— <i>New Remedies.</i>	

### PEPSINE LOZENGES.—

Pure pepsine .....	4 drachms
Muriatic acid.....	45 grains
Distilled water .....	15 “
Glycerine.....	1½ drachm
Tragacanth powder.....	2 drachms
Red Saunders.....	8 grains

Mix and divide into 50 lozenges. Dose, five per day, to be taken with some water.

GREASE ERADICATOR.—The following compound for general use, with some perfume, would meet with a ready sale:—

	Oz.
Castile soap in shavings.....	4
Carbonate of soda... ..	2
Borax... ..	1
Aqua ammonia .....	7
Alcohol.....	3
Sulphuric ether .....	2

Soft water enough to make one gallon. Boil the soap in the water until it is dissolved, and then add the other ingredients.

**GONORRHOEA SUPPOSITORIES.**—Dr. D. W. C. Wade considers this affection to be a fermentative disease. He proposes the following plan of treatment, which has a very strong support from a clinical standpoint. Take of:

Powdered iodoform.....	2 drachms
Subnitrate of bismuth.....	2 “
Hydrate of chloral.....	15 grains
Morphia.....	5 “
Oil of rose geranium.....	20 drops
Cacao butter.....	1 ounce

Mix and divide into twenty-four suppositories one-eighth of an inch in diameter. Directions, one to be pushed into the urethra three times daily.—*Druggists' Circular*.

*Egg Julep, or Saponaceous Hair Wash.*

Rose Water	Oj.
Rectified Spirit	Oj.
Ess. Rondeletia	Oss.
Saffron	3ss.
Pears's Transparent Soap	3ss.

Cut the soap fine and boil with the saffron in a quart of rose water; when cold, add the remainder of the rosewater, then the spirit, and, finally, the essence of rondeletia. Let the julep stand for three days, and bottle.—*J. E. Saul in Pharm. Jour. & Trans.*

**SOLDIER FOR METAL, GLASS, AND PORCELAIN.**—A soft alloy which will adhere so firmly to metallic, glass, and porcelain surfaces that can be used as a solder, and which is invaluable when the articles to be soldered are of such a nature that they cannot bear a high degree of temperature, consists of finely-pulverised copper or copper-dust, which is obtained by shaking a solution of sulphate of copper with granulated zinc. The temperature of the solution rises considerably, and the metallic copper is precipitated in the form of a fine brownish powder. 20, 30, or 36 parts of this copper-dust, according to the hardness desired, are placed in a cast-iron or porcelain-lined mortar and well mixed with some sulphuric acid having a specific gravity of 1.85. Add to the paste thus formed 70 parts (by weight) of mercury, constantly stirring. When thoroughly mixed the amalgam must be carefully rinsed in warm water to remove the acid, and then set aside to cool. In 10 or 12 hours it will be hard enough to scratch tin. When it is to be used it should be heated to a temperature of 375° C., when it becomes as soft as wax by kneading it in an iron mortar. In this ductile state, the *Scientific American* says, it can be spread upon any surface, to which, as it cools and hardens, it adheres very tenaciously.

# Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor not later than the 25th of each month.

## BUSINESSES FOR SALE.

**DRUG BUSINESS**—established 20 years; proprietor retiring; stock about \$4,500; no bad stock; large prescription trade; good opening for a doctor in connection; good town of about 2,500; one other drug store. Apply Lyman Bros. & Co., Toronto.

A very desirable drug and stationery stock—about \$2,500—for sale at a reasonable price; terms easy; store nicely fitted up; situated in one of the best business towns in Ontario; good reasons for selling. For particulars apply to C. McCallum, Wholesale Druggist, London, Ont.

A good business on a leading street of Toronto. Apply to Elliot & Co.

## BUSINESSES WANTED.

A good paying Drug business in Ontario. Address, giving full particulars, Druggist, box 213, Belleville.

## FOR SALE OR EXCHANGE.

One gallon Tincture Press in A1 condition; also Enterprise Drug Mill, No. 7, in first class working order. Will sell reasonable for cash. Preston Lambert, Penetanguishene.

One Matthews soda water generator, good working order; with one six gallon iron cylinder, lined, one silver fountain, two tubes, with counter and marble slab; including iron stand, pipes, wrenches, &c.; cost \$300 when new; will be sold at half price. Address Phiz, care Journal.

## WANTING ENGAGEMENTS.

**ASSISTANT**—J. A. Allan, 162 McCaul street, Toronto, graduate O. C. P., is open for an engagement; over 3 years experience.

**As ASSISTANT**—J. F. Kellock, Perth, would be glad to hear of an opening for a young man just out from England. Has had experience in wholesale and retail. Salary not first consideration.

**ASSISTANT**—Harry A. Hawken, box 40 Watford, one and a-half years' experience.

**ASSISTANT**—W. C. Keyes, Vanauley street, Toronto; three years with N. C. Polson, to whom he refers.

## SITUATIONS VACANT.

**Wanted—Immediately**—A young man as druggist and telegraph operator; competent to take full charge in both branches; must be well recommended. Address, with references and stating salary expected, to J. M. Garvey, druggist, Delhi.

B. M. Canniff, Portage la Prairie, Man., wants an assistant.

## BUSINESS NOTES.

W. J. Holden, of Southampton, who was last month reported as about leaving that place for Delroit, continues still in his old place of business, where he has taken into partnership his brother-in-law, under the style of Holden & Hisey. The firm have purchased a business on Baker street,

Detroit, and intend carrying on both stores.

J. Hollingshead is removing from Noble-ton to Schomberg.

B. Kilborn, of Plattsville, has removed his stock to Bradford, where he has purchased the old established business of J. F. Williams.

A. H. Johnston, lately with H. A. Knowles, Toronto, is about commencing business at Collingwood.

W. H. Porter, lately with H. Sherris, Toronto, has opened a store at Cobourg.

W. Scott, of Gerrard street, Toronto, has sold out, and commenced business at a new stand. The old business is now conducted under the name and directorship of C. Hearn.

A. J. Fisher, of Gravenhurst has opened a new business at Huntsville.

H. Schofield, of York street, Toronto, has removed to Caer Howell street.

W. J. Clarke, of Prince Arthur's Landing has opened a branch, under the management of his brother at Sault St. Marie.

## MARKET REPORT.

Trade during October has been quite active. Payments have been rather slow in some cases, on account of farmers being indisposed to accept present rates for produce.

*Opium.*—The market is decidedly firmer, and it is alleged that prices would naturally advance but for small lots held by needy speculators in New York. The English market is about three shillings above that of the United States. Morphia has had very little change, being governed by English values.

*Quinine* has declined, and is in quite an unsettled condition, one element of the disturbance is the report that a leading firm in the United States has contracted for 200,000 ounces from Europe, and as this is about an eight months' supply for the New York market, the effect has been depressing. Cinchonidia is quite scarce, and Merck has advanced his quotation one mark, (24 cents) per ounce.

*Miscellaneous Drugs.*—Castor Oil is in better supply, but quotations are unaltered. Cod-liver Oil is rather lower in New York. It is said that some lots for Montreal have been mixed with steam refined pale seal oil. Gentian root is scarce and dear; Calumba has advanced; Glycerine is again rising in price, and is in active demand; Cubebs are very firm, stocks being concentrated both in London and New York. Oils of lemon and Bergamot are rather easier; other essential oils are without much change. Gum Arabic is dull and lower. Tragacanth is quite firm, the crop being small. Shellac is in slight demand, and unchanged. Herbs and leaves are generally firm. Aniseed is dearer, while canary and hemp are lower.

*Spices* maintain full rates.

*Paints & Oils.*—The upward movement in spirit of turpentine still continues. Stocks in Wilmington and London are being controlled by a syndicate, with very little at outside places. English linseed oil is rather easier. Very little Canadian oil produced from this season's seed is yet in the market. The flax seed mills will not accept the high price at which seed is held, under the circumstances. There is a good demand for white lead and colors at unchanged rates.

DRUGS, MEDICINES, &c.	§ c.	§ c.
Acid, Acetic, fort ..... per lb	0 12	@ 0 14
Benzoic, pure .....	0 15	0 30
Carbolic, cryst., med .....	1 25	1 50
" com .....	0 0	0 50
Citric .....	0 80	1 00
Gallic .....	1 60	1 80
Muriatic .....	0 03½	0 06
Nitric .....	0 10½	0 15
Oxalic .....	0 18	0 19
Salicylic .....	2 20	2 50
Sulphuric .....	0 02½	0 05
Tannic .....	1 10	1 25
Tartaric, pulv .....	0 65	0 75
Ammon, carb. ....	0 21	0 24
Bromide .....	0 75	0 90
Iodide .....	4 00	5 00
Liquor, 880 .....	0 20	0 22
Muriate .....	0 14	0 15
Æther, Nitrous .....	0 27	0 45
Sulphuric .....	0 50	0 65
Antim. Nig., pulv .....	0 15	0 17
Tart .....	0 55	0 60
Alcohol, 95 per ct., tbl. . . . . Cash	2 75	3 00
Arrowroot, Jamaica .....	0 14	0 22
Bermuda .....	0 45	0 65
Alum .....	0 02	0 03½
Balsam, Canada .....	0 45	0 50
Copaiba .....	0 90	1 10
Tolu .....	1 00	1 25
Bark, Bayberry, pulv. ....	0 18	0 20
Canella, " .....	0 12	0 14
" pulv. ....	0 20	0 22
Peruvian, yel. pulv. ....	0 25	0 50
" red .....	1 60	2 40
Prickly Ash .....	0 35	0 40
Slippery Elm, g. d. bulk .....	0 18	0 25
flour, packets. ....	0 28	0 32
Sassafras .....	0 12	0 16
Wild Cherry .....	0 10	0 12
Berries, Cubebs, ground. ....	1 40	1 50
Juniper .....	0 06	0 10
Beans, Tonquin .....	2 00	3 00
Vanilla .....	10 00	15 00
Bismuth, Trisulph. ....	2 50	2 60
Carb. ....	2 60	2 70
Liquor .....	0 35	0 55
Rorax, refined .....	0 18	0 23
Camphor, American .....	0 35	0 37
English .....	0 48	0 50
Cantharides .....	1 50	1 60
Powdered .....	1 61	1 75
Chiretta .....	0 25	0 30
Chloroform, pure .....	1 15	1 75
" D. & F .....	1 60	2 00
" German .....	0 75	0 90
Chloral hydrate .....	1 50	1 60
Cinchonine, Muria. e .....	0 40	0 48
" Sulphate .....	0 34	0 42
Cinchonidia, Sulphate .....	1 10	1 10
Cochineal, S. G. ....	0 50	0 60
Black .....	0 50	0 60
Collodion .....	0 75	0 90
Cut e-Fish Bone .....	0 40	0 50
Ergot .....	0 60	0 80
Extract Belladonna. ....	3 10	3 10
Colocynth, Co. ....	1 25	1 75
Gentian .....	0 50	0 60
Hemlock, Ang .....	1 00	1 05
Henbane, " .....	3 00	3 50
Jalap .....	2 50	5 00
Mandrake .....	1 75	2 00
Nux Vom. ....oz	0 20	0 30
Opium .....	1 00	0 60
Rhubarb .....	4 00	5 00
Sarsap. Hon. Co. ....	1 00	1 20
" Jam. Co. ....	4 00	4 50
Taraxacum, Ang .....	0 65	0 80
Flowers, Arnica .....	0 25	0 28
Chamomile .....	0 30	0 00
Fuller's Earth .....	0 03	0 04
Gum, Aloes, Barb .....	0 30	0 70
" Cape .....	0 20	0 25
" powdered .....	0 23	0 25
" Socot. ....	0 54	0 75
" pulv .....	0 62	0 80
Arabic. Select .....	0 40	0 45
" powdered .....	0 45	0 55
" sorta .....	0 18	0 20

DRUGS, MEDICINES, &c.—Contd.	§ c.	§ c.
Gum Arabic Sorts, powdered .....	0 20	0 30
Assafetida .....	0 20	0 25
Benzoïn .....	0 50	0 80
Catechu .....	0 12	0 15
" powdered .....	0 20	0 25
Gamboge .....	1 00	1 25
Guaiaacum .....	0 65	1 00
Myrrh .....	0 45	0 85
Sang Dragon .....	0 15	0 45
Scammony, powdered .....	4 90	5 00
" Virg. ....	12 50	14 00
Shellac, Orange .....	0 35	0 40
Shellac, liver .....	0 33	0 38
Storax .....	0 05	0 50
Tragacanth, flake .....	0 65	1 35
" common .....	0 25	0 65
Galls .....	0 20	0 25
Gelatine, Cox's 6d. ....	1 20	1 25
" French .....	0 50	0 80
Glycerine, common crude .....	0 25	0 28
" 30° .....	0 37	0 40
Prices .....	0 70	0 00
Honey, Canada, best. ....	0 15	0 17
Iron, Carb. Precip. ....	0 16	0 20
Citrate Ammon. ....	0 95	1 00
" & Quinine, oz. ....	0 45	1 10
" & Strychine .....	0 18	0 20
Perchloride solution .....	0 16	0 20
Sulphate, pure .....	0 06	0 10
Iodine, commerc. al. ....	2 25	2 50
Resublimed .....	2 75	3 00
Jalapin .....	0 75	1 50
Kreosote .....	0 75	3 00
Leaves, Buchu .....	0 25	0 30
" Belladonna .....	0 30	0 33
Foxglove .....	0 27	0 38
Henbane .....	0 25	0 25
Morehound .....	0 15	0 25
Lobelia .....	0 20	0 25
" pulv. ....	0 40	0 45
Senna, Alex .....	0 23	0 25
" E. I. ....	0 10	0 14
" Tinnevely .....	0 13	0 25
Uva Ursi .....	0 15	0 17
Lime Chloride .....	0 02½	0 05
Lime, Hypo-phos hite .....	2 00	2 25
Sulphite .....	0 10	0 11
Lead, Acetate .....	0 14	0 17
" Brown .....	0 09	0 10
Leptandrin .....	0 02	0 75
Lye, Concentrated .....	1 00	1 25
Liquorice, Solazzi .....	0 52	0 55
Morucci .....	0 35	0 37
Other brands .....	0 14	0 35
Magnesia, Carb. ....oz.	0 22	0 25
" 4 oz. ....	0 19	0 22
Calcined .....	0 60	0 70
Citrate .....	0 40	0 75
Mercury .....	0 10	0 65
Ammoriated .....	1 25	1 30
Bichlor .....	0 80	0 60
Iodide .....	3 60	4 00
Chloride .....	0 90	1 10
C. Chalk .....	0 40	0 70
Nit. Oxid .....	1 10	1 30
Morphia Acet .....	2 75	2 95
Mur. ....	2 75	2 90
Sulph. ....	2 75	2 90
Musk, pure grain .....	32 00	.....
Canion .....	0 60	0 70
Moss, Irish .....	0 12	0 15
Oil, Almonds, sweet. ....lb.	0 60	0 65
" bitter .....	12 00	13 00
Aniseed .....	3 75	4 00
Bergamot, super .....	3 60	4 00
Caraway .....	3 20	3 50
Cassia .....	1 10	2 00
Castor, E. I .....	0 11	0 14
Cedar .....	0 50	0 50
Citronella .....	1 25	1 50
Cloves, Ang .....	2 50	3 00
Cod Liver, Nor., Imp. Gal .....	3 50	3 75
" N. F. ....	2 25	2 50
Croton .....	1 85	2 00
Hemlock .....	0 45	0 90
Juniper Wood .....	0 65	0 00
Berries .....	0 00	0 00
Lavand, Ang .....	4 50	5 00

DRUGS, MEDICINES, &c.—Cont'd

Oil, Lavand, Exotic.....lb.	1 40	3 50
Lemon, .....	3 50	4 00
Orange .....	2 40	2 60
Neroli, super.....oz.	3 50	3 50
Origanum .....	0 65	0 85
Peppermint Ang. ....	13 00	15 00
" Amer. ....	4 00	5 00
Rose, Virgin .....	13 00	14 00
" good .....	7 00	8 00
San'al Ang .....	9 00	9 75
Sassafras .....	1 00	1 20
Verbena .....	1 75	2 00
Wintergreen .....	4 00	4 50
Wormwood, pure.....	9 50	0 00
Ointment, blue.....	0 55	0 60
Opium, Turkey.....	5 00	5 25
" pulv.....	7 70	9 00
Orange Peel, opt.....lb.	0 35	0 40
" good.....	0 16	0 25
Pill, Blue, Mass.....	0 55	0 75
Potas., Bi-chrom .....	0 16	0 20
Bi-tart .....	0 35	0 40
Bromide .....	0 48	0 55
Cyanide .....	0 52	0 55
Carbonate .....	0 18	0 15
Chlorate .....	0 22	0 25
Iodide .....	2 00	2 25
Nitrate .....	8 75	11 00
Sulphuret .....	0 25	0 35
Pepsin, Boudault's.....oz.	1 25	1 20
" Morson's.....oz.	0 60	1 00
Phosphorus .....	0 90	1 05
Podophyllin .....	0 45	0 50
Quinine, Howard's .....	2 65	2 75
" G-r at .....	2 15	2 25
Root, Colombo.....lb.	0 20	0 40
Curcuma, grd .....	0 11	0 15
Elecampane .....	0 16	0 17
Gentian .....	0 07	0 10
" pulv .....	0 12	0 20
Hellebore, pulv.....	0 17	0 18
Ipecac .....	1 75	0 00
Jalap, Vera Cruz.....	0 38	0 45
Liquorice, select.....	0 13	0 15
" powdered .....	0 13	0 15
Mandrake .....	0 12	0 20
Orris .....	0 18	0 25
Rhubarb, Turkey.....	2 25	2 40
" E. I. ....	0 85	0 95
" pulv .....	1 00	1 20
Sarsap., Hond .....	0 45	0 65
" Jam .....	0 60	0 00
Squills .....	0 16	0 20
Senega .....	0 95	1 00
Spigelia .....	0 55	0 65
Sal., Epsom.....oz.	0 22	0 02½
Rochelle.....	0 35	0 33
Soda .....	1 25	2 50
Seed, Anise .....	0 12	0 15
Canary .....	6 00	7 00
Cardamon .....	3 00	3 25
Fenugreek, g'd .....	0 03	0 09
Flax, Out. Cash 100 bs	3 25	0 00
" Imported .....	3 00	3 25
Hemp .....	0 06½	0 07
Mustard, white.....	0 10	0 15
Saffron, American .....	0 70	1 00
Spanish .....	18 00	0 00
Santonine .....	6 00	8 00
Sago .....	0 08	0 09
Silver, Nitrate.....Cash	13 20	14 00
Soap, Castile, mottled.....	0 10½	0 11½
Soda, Ash .....	0 02½	0 05
Bicarb. Newcastle..Keg	3 25	3 75
" Howard's .....	0 16	0 16
Caustic .....	0 03	0 05
Spirits Ammon., arom ..	0 40	0 45
Strychnine, Crystals.....oz	1 75	2 00
Sulphur, Precip .....	0 15	0 16
" Sublimed .....	0 03½	0 03½
" Roll .....	0 02½	0 03½
Verdigris .....	0 50	0 55
Wax, White, pure .....	0 65	0 75
Zinc, Chloride.....oz	0 10	0 15
Sulphate, pure.....lb	0 09	0 12
" common.....	0 06	0 10

DYE STUFFS.

Annatto .....	0 35 @	0 60
Aniline, Magenta, cryst ..	2 25	2 50

DYE STUFFS—Continued.

Argols, ground.....	0 15	0 33
Blue Vitriol, pure .....	0 06½	0 08
Camwood .....	0 05½	0 08
Copperas, Green.....	0 07½	0 02
Cudbear .....	0 15	0 30
Fustic, Cuban .....	0 02½	0 03
Indigo, .....	0 75	1 00
Extract .....	0 25	0 35
Japonica .....	0 06½	0 08
Lacdyce, powdered .....	0 33	0 38
Logwood, Camp .....	0 02½	0 03
Extract .....	0 9	0 12
" 1 lb. bxs.....	0 13½	—
" ¼ lb. " .....	0 14½	—
Madder, beat Dutch.....	0 12½	0 14
Quercitron .....	0 03	0 05
Sumac .....	0 05	0 07
Tin, Muriate.....	0 10½	0 12½
Redwood.....	0 03½	0 04
SPICES.		
Allspice .....	0 20 @	0 23
Cassia .....	0 20	0 25
Cloves .....	0 40	0 50
Cayenne .....	0 33	0 37
Ginger, E. I. ....	0 12	0 14
Jam .....	0 27	0 30
Mace .....	0 8½	1 00
Mustard, com .....	0 20	0 25
Nutmegs .....	0 95	1 00
Pepper, Black .....	0 18	0 20
White .....	0 35	0 32
PAINTS, DRY.		
Black, Lamp, com.....	0 08 @	0 10
" refined.....	0 18	0 25
Blue, Celestial .....	0 03	0 12
Prussian .....	0 65	0 75
Brown, Vandyke .....	0 05	0 06
Chalk, White .....	0 01	0 01½
Green, Brunswick .....	0 07	0 10
Chrome .....	0 16	0 25
Paris .....	0 22	0 24
Magnesia.....	0 15	0 20
Litharge .....	0 07	0 03
Red Lead .....	0 05½	0 07
Venetian .....	0 02½	0 03
Sienna, B. & G.....	0 07	0 08
Umber .....	0 07	0 10
Vermillion, English .....	0 90	1 00
American .....	0 20	0 22
Whiting.....100 bs	0 85	1 06
White Lead, dry, gen.....lb.	0 05½	7 00
" No. 1.....	0 01	6 00
Yellow Chrome.....	0 09	0 15
Ochre .....	0 02	0 03
Zinc White, Star .....	0 06½	0 11
COLORS, IN OIL.		
Blue Paint.....	0 12 @	0 15
Fire Proof Paint.....	0 06	0 08
Green, Paris .....	0 30	0 35
Red, Venetian .....	0 07	0 10
Patent Dryers, 1 lb tins.....	0 10	0 12
Putty .....	0 03	0 03½
Yellow Ochre .....	0 08	0 12
White Lead, gen. 25 lb. tins.....	1 80	2 00
" No. 1 .....	1 60	1 75
" No. 2 ..less 7½ pc	1 40	1 50
" No. 3 .....	1 20	1 25
White Zinc, Snow .....	2 25	2 35
NAVAL STORES.		
Black Pitch .....	3 50 @	4 00
Rosin, Strained .....	4 01	4 00
Clear, pale .....	5 50	6 51
Spirits Turpentine Imp.Gall....	0 95	1 00
Tar Wood .....	3 50	5 00
OILS.		
Cod Imp. Gall.....	0 65 @	0 70
Lard, extra .....	1 10	1 20
No. 1 .....	1 05	1 10
Linsced, Raw per gals. ....	0 72	0 75
Boiled.....	0 76	0 80
Neats-foot .....	1 20	1 20
Olive, Common, Imp. Gall.....	1 05	1 45
Salad .....	2 11	2 20
" Pints, cases .....	4 00	4 20
" Quarts .....	3 25	3 50
Seal Oil, Pale, Imp. Gal.....	0 80	0 85
Union Salad .....	1 10	1 20
Sperm, genuine .....	2 40	2 50

# CANADIAN PHARMACEUTICAL JOURNAL

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WHOLE No. CLXXI.

## Original and Selected Papers.

### CULTIVATION OF MEDICINAL PLANTS.\*

QUERY.—“ It has been asserted that much difficulty has been experienced in cultivating some species of medicinal plants, owing to the failure of the seeds to germinate. Would any special treatment of such seeds facilitate the germination ?”

“ In endeavoring to prepare a reply to the above query, I have met with much difficulty, partly from want of time to carry on an extensive series of experiments, and also in failing to procure fresh seeds of medicinal plants for this purpose ; and I fear that any facts that I have thus far been enabled to accumulate will be but an imperfect and partial reply. The results given are from records extending over a period of several years, and most of the seeds referred to were necessarily procured through the ordinary channels of commerce, and from such a source failure may be attributed to the unknown age of the seeds obtained.”

Of the several seeds he reports :

*Aconitum Napellus*, sown in an open bed early in spring ; none germinated,

*Agrimonia officinalis*, similarly treated ; no result.

*Anchusa Italica*. The seeds of this plant came up thickly, and survived for several winters without protection.

*Anethum graveolens*.—A few of the seeds germinated, but only a very small proportion of the whole ; some of the plants brought forth seeds in the autumn.

*Angelica archangelica*.—A quantity of the seeds of this plant was sown, but none germinated.

Of other attempts which proved successful were those of

\* Abstract of a paper read by William Saunders, of London, Ont., at the meeting of the Amer. Pharm. Assoc., and published in the Druggists' Circular.

*Artemisia Absinthium, Atropa Belladonna, Berberis vulgaris, Calendula officinalis, Coriandrum sativum, Digitalis purpurea, Glycyrrhiza glabra, Hyoscyamus niger, Hyssopus officinalis, Phytolacca decandra, Ruta graveolens, Salvia officinalis, Sarothamnus scoparius, Tanacetum vulgare, Taraxacum Dens leonis.*

The writer gives the details of each experiment, with source from which seeds were obtained. He was not successful with *Asclepias tuberosa, Bryonia alba, Colchicum autumnale, Gentiana lutea, Lobelia inflata, Marrubium vulgare, Polygala Senega, Solanum Dulcamara, Valeriana officinalis*, imported seed, and *Veratrum album*. In concluding the description of his interesting and patient labors Mr. Saunders says: "From the few experiments I have been able to make I am of opinion that most of the failures may be attributed to the fact of the seeds being old and dry, and that if the seed, after being allowed to ripen, is obtained first from the plant and sown in mellow soil in shallow drills, that in most instances success will attend the efforts. In sowing, the seed should not be planted in the soil much deeper than twice its own length, and in the case of very small seeds they should be sown on the surface as soon as possible after they are ripe, and lightly raked in. If the seeds are thus prevented from drying and are not covered too deeply, they will usually germinate either in the autumn or the following spring. Seeds having thick integuments may be treated with scalding water or a hot solution of oxalic acid with advantage."

#### FORMULAS FOR WELL-KNOWN PROPRIETARY MEDICINES.\*

*Dr. Pierce's Golden Medical Discovery (Nelson).*

Fluid extract of cinchona.....	16 ounces.
" " columbo .....	4 "
" " guaiac .....	8 "
" " licorice .....	4 "
Tincture of opium .....	1 ounce.
Podophyllin (resinoid).....	120 grains.
Glycerin .....	6 pts. fluid.
Alcohol.....	q. s.

Dissolve the podophyllin in the alcohol, and add the rest of the ingredients. Mix them. Dose, a teaspoonful.

*Dr. Pierce's Favorite Prescription (Hager).*

Savin .....	10 grams.
Agaric .....	5 "
Cinnamon .....	5 "

\* From the Drug Mill.



Peruvian bark ... ..	10 grams.
Make a decoction of.....	220 "
And add gum arabic .....	10 "
Sugar .....	5 "
Tincture of digitalis.....	2 "
Tincture of opium.....	2 "
Oil of anise .....	8 drops.
Dissolve in alcohol.....	45 grams.

*Walker's Vinegar Bitters.*

Powdered golden seal .....	1 ounce.
" aloes (cape).....	$\frac{1}{2}$ "
Water.....	16 ounces.

Bottle up, tie the cork down tightly. Ready for use in ten days.

*Coe's Dyspepsia Cure (Nelson).*

Powdered rhubarb.....	2 drachms.
Fluid extract of gentian.....	3 "
Peppermint water .....	7 $\frac{1}{2}$ ounces.
Bicarbonate of sodium.....	6 drachms.

Mix them. Dose, a teaspoonful half an hour before meals.

*Piso's Consumption Cure (Nelson).*

Syrup of morphia (one grain to ounce).....	4 ounces.
Chloroform (Squibb's) .....	2 fl. drms.
Glycerin .....	3 $\frac{1}{2}$ "
Hydrocyanic acid—dilute.....	1 drachm.
Chlorophyll—q. s.—to tint.	

Mix the chloroform with the glycerin. Add the other ingredients and mix. Adult dose, a teaspoonful.

*Ayers' Cherry Pectoral.*

Syrup of wild cherry.....	6 drachms.
Syrup of squills .....	3 "
Tincture of bloodroot.....	2 "
Sweet spirit of nitre.....	2 "
Wine of antimony.....	3 "
Wine of ipecac.....	3 "
Syrup .....	1 $\frac{1}{2}$ ounces.
Acetate of morphia.....	2 grains.
Spirit of bitter almonds.....	1 drachm.

Mix.

*Pleis' Fit Powders.*

Bromide of potassium.....	15 grains.
Powdered gentian .....	5 "

Mix—make one powder.

*Hall's Hair Renewer.*

Precipitated sulphur .....	1 drachm.
Acetate of lead.....	1 "
Salt (common).....	2 drachms.
Glycerin.....	8 fl. ounces.
Bay rum.....	2 "
Jamaica rum.....	4 "
Water .....	16 "

Shake before using.

*Ayers' Sarsaparilla.*

Fluid extract of sarsaparilla.....	3 ounces.
Fluid extract stillingia.....	3 "
Fluid extract yellow dock.....	2 "
Fluid extract may-apple.....	2 "
Sugar .....	1 ounce.
Iodide of potassium.....	90 grains.
Iodide of iron.....	10 "

Mix them.

*Hamlin's Winard Oil.* (J. J. Pierson, Ph. G.)

Spirit of camphor.....	1 ounce.
Spirit of ammonia.....	$\frac{1}{2}$ "
Oil of sassafras.....	$\frac{1}{2}$ "
Oil of cloves.....	2 drachms.
Chloroform .....	$\frac{1}{2}$ ounce.
Oil of turpentine .....	$\frac{1}{2}$ "

Alcohol q. s., to make 5 ounces.

Mix them.

*Radway's Relief.* (J. J. Pierson, Ph. G.)

Soap liniment, about .....	1 $\frac{1}{2}$ ounces.
Tincture of capsicum, about.....	$\frac{1}{2}$ ounce.
Water of ammonia, about .....	$\frac{1}{2}$ "
Alcohol .....	$\frac{1}{2}$ "

Mix them.

*Flagg's Relief.* (J. J. Pierson, Ph. G.)

Oil of cloves, about .....	1 drachm.
Oil of sassafras, about.....	2 drachms.
Spirit of camphor, about.....	1 $\frac{1}{2}$ "

Mix.

*Perry Davis' Pain Killer.* (J. J. Pierson, Ph. G.)

Spirit of camphor, about.....	2 ounces.
Tincture of camphor, about.....	1 ounce.
Tincture of guaiac, about.....	1 $\frac{1}{2}$ "
Tincture of myrrh, about.....	$\frac{1}{2}$ "
Alcohol, color, about.....	3 ounces.

*Canada Liniment.*

Water of ammonia.....	I	ounce.
Olive oil.....	I	"
Oil of turpentine.....	I	"
Alcohol .....	I	"
Oil of peppermint .....	$\frac{1}{2}$	"

Mix them.

*Chamberlain's Relief.* (J. J. Pierson, Ph. G.)

Tincture of capsicum, about .....	I	ounce.
Spirit of camphor, about .....	$\frac{1}{4}$	"
Tincture of guaiac, about.....	$\frac{1}{4}$	"
Color tincture, to make.....	2	ounces.

Mix them.

*Kellog's Red Drops.*

Spirit of camphor .....	2	ounces.
Spirit of origanum.....	$\frac{1}{4}$	ounce.
Oil of sassafras .....	$\frac{1}{4}$	"
Oil of turpentine.....	$\frac{1}{4}$	"
Colour tincture, about .....	4	ounces.

Mix them.

*Tobias' Venetian Liniment.*  $\frac{viii}{x}$  (Hager.)

Spirit of ammonia.....	5	parts.
Camphor.....	2	"
Tinture of capsicum.....	5	"
Alcohol .....	34	"
Water .....	10	"

Mix them.

*Injection Brou.* (Hager.)

Distilled water .....	19,000.00	parts.
Sulphate of zinc.....	100.00	"
Acetate of lead .....	200.00	"
Tincture of catechu.....	400.00	"
Wine of opium .....	400.00	"

Mix them.

*Holloway's Pills.*

Aloes powdered.....	36	grains.
Jalap " .....	18	"
Ginger " .....	18	"
Myrrh " .....	18	"

*Red Horse Condition Powders.*

Fœnugreek, powdered .....	2	ounces.
Gentian, " .....	2	"
Black antimony " .....	2	"
Capsicum " .....	2	"
Cream of tartar " .....	2	"

Rosin	powdered	.....	2 ounces.
Saltpetre	"	.....	2 "
Myrrh	"	.....	1 ounce.
Ginger	"	.....	1 "

Mix them.

*Tobias Derby Condition Powder. (Hager.)*

Tartar emetic powder	.....	2 grams.
Crude antimony	.....	20 "
Sulphur	.....	10 "
Saltpetre	.....	10 "
Fœnugreek, powdered	.....	40 "
Juniper berries	.....	20 "

Mix them.

*Thompson's Eye Water.*

Sulphate of copper	.....	10 grains.
Sulphate of zinc	.....	40 "
Rose water	.....	2 pints.
Tincture of saffron	.....	4 drachms.
Tincture of camphor	.....	4 "

Mix and filter.

*Sage's Catarrh Remedy. (Hager.)*

Powdered golden seal	.....	5 parts.
Indigo	.....	$\frac{1}{2}$ part.
Powdered camphor	.....	2 parts.
Carbolic acid	.....	2 "
Salt (common)	.....	50 "

## GLYCERINE FROM SOAP-LYES.

The following is the process patented by MM. Thomas and Domeyer for the extraction of glycerine from soap-lyes. Is does not seem to have practically answered yet. First the lye is evaporated to a fifth of its volume; then an excess of sulphuric or other acid is added, causing the fatty acids to rise to the surface. They are removed, the liquid is neutralised by alkali, and the albuminous matters are precipitated and may be separated by filtration. By further concentration of the filtered liquid the salt and water are eliminated, and the crude glycerine which is left is washed with a hydrocarbon, with bisulphide of carbon, with ether, or with some other solvent which does not dissolve glycerine. Afterwards the last traces of hydrocarbons are removed by blowing air through the glycerine.—*Moniteur du Produits Chimiques.*

The *Chemiker Zeitung* says of this process that it is a beautiful idea if it were not that the fatal solubility of salts in glycerine preventing their removal did not stand in the way of its success.—*Chemist and Druggist.*

## BRITISH PHARMACEUTICAL CONFERENCE.

*(Continued from page 103.)*

Mr. Symons then read a paper on "Tumefaction as an Aid to the Identification of the Varieties of Maranta Starch." It contained the results of experiments made by treating different starches with solutions varying from 0.5 to 1.5 per cent. of caustic soda, and also by submitting them to various degrees of heat until tumefaction took place. He found that when potato, oat, Natal, tous-les-mois, wheat, Bermuda, sago, maize, cassava, St. Vincent, and rice starches were treated with caustic soda for ten minutes, they required for their complete tumefaction solutions increasing in strength in the order mentioned, from potato with a 0.8 solution to rice which required a 1.3 solution. When tumefied by heat and arranged according to the degree of temperature required, the order of the starches was nearly the same, with the exception of oat and cassava. It is worthy of remark that when using the alkaline method of tumefaction the order of the starches bears out a conjecture recently put forward in this Journal by the author, that the higher the temperature at which a starch grows the higher is its point of tumefaction.

The next paper read was on "The Purity of Commercial Salts of Gold," by Mr. F. W. Branson. It gave the result of the examination of some fifteen-grain tubes of commercial salt of gold, eight of which were found to be correct within reasonable limits, whilst four showed a deficiency of 8 per cent. in weight or 5 per cent. in metal. The latter, although obtained from a reputable house, bore neither trade mark, seller's name, nor guarantee label.

In the paper next read, on "The Iodides of Bismuth," by Messrs. F. W. Fletcher and H. P. Cooper, the authors described a new compound of bismuth, a very basic yellow iodide, represented by the formula  $\text{BiI}_{3.5}\text{Bi}_2\text{O}_3$  or  $3\text{BiOI} \cdot 4\text{Bi}_2\text{O}_3$ , met with whilst testing metallic bismuth for lead.

The last paper read before the adjournment for luncheon was a note on "Microscopic Organisms in certain Inorganic Solutions," and contained the details of some experiments made as to the formation of a green vegetable growth in bottles containing solutions of sodium phosphate, magnesium phosphate, and calcium sulphate, kept in the laboratory of the Yorkshire College of Science.

The Conference re-assembled at 2.30 p.m., when a paper by Mr. D. B. Dott, on "The Solubility of Morphia Salts" was read. It consisted principally of an adverse criticism of two papers on a similar subject by Professor Power and Mr. J. U. Lloyd, and incidentally the author mentioned that he is engaged upon the compilation of a table of the solubility of morphia salts, the determinations being made at 60° F. In discussing this paper M. R. H.

Parker suggested that it would be advantageous to establish standard conditions under which solubilities should be taken, since the solubility of many substances is much affected by varying circumstances. Mr. J. Williams said that he looked upon solubility as being closely associated with the power of crystallization, illustrating his remark by a reference to the compounds of caffeine recently described by M. Tanret, which he does not consider to be definite chemical compounds, but mixtures. Mr. P. W. Squire also pointed to the necessity of distinguishing between the point of solubility and the crystallizing point.

In some "Notes on the Pharmacy of Cinchona," Mr. R. W. Giles called attention to the unsatisfactory results that have followed the "fearful deterioration of Calisaya bark," both pharmacy and medical practice having been prejudiced through the consequent substitution of quinine for pharmaceutical preparations of the bark. He recommends that all pharmacists should keep in stock Indian or other non-official bark of sufficient alkaloidal value, and that when opportunity offers they should educate the medical profession to the use of it. He considers that the standard adopted for the cinchona of pharmacy should be an alkaloidal and not a quinine standard, that it should be a mean and not an extreme one, and that it should admit barks from all sources. Further, he described a process for the determination of the alkaloidal value of cinchona bark which, he said, though simple and easy of manipulation, gives results near enough for pharmaceutical purposes. He expressed a preference for a fluid extract as a pharmaceutical preparation, but said that a fluid extract of cinchona worthy of its name was still a desideratum. In the discussion of this paper, Mr. Welcome recommended that the standard of a pharmaceutical bark should be fixed at 2 per cent. of quinine, with a proper proportion of the other cinchona alkaloids. Mr. Southall spoke favorably of the decoction, which he said was largely used in the Birmingham district, and Dr. Symes said it was also a favorite preparation in Liverpool. On the other hand, Mr. Ekin reminded the Conference that he had found the decoction to be the preparation weakest in alkaloid. The discussion afforded Mr. Hampson the opportunity of saying that changes in the Pharmacopœia would be best effected, when necessary, under the advice of practical pharmacists, and that the Pharmaceutical Society of Great Britain or the British Pharmaceutical Conference ought to be represented in the Pharmacopœia Committee in virtue of legal enactment.

"A Note on the Action of Glycerine upon some Salts of Iron," by Mr. G. F. Schacht, described the results of some experiments arising out of an alteration observed in a mixture made from the following prescription:—"Tinct. ferri perchloridi, 3iss; glycerini, 3vj; aquæ, ad 3vj." The mixture, when first prepared, was of a pale sherry color, and possessed an astringent metallic taste; but

the color afterwards nearly disappeared, and the taste became sweet and metallic, but not astringent. The change was due to the reduction of the iron from the ferric to the ferrous condition, and experiments showed that this reduction takes place in the presence of ethyl alcohol, glycerine, and probably some other alcohols. Conversely, glycerine appears to retard, though not absolutely to prevent the oxidation of the proto-salts. The President said that this action of alcohol upon a per-salt of iron had been long known, an ethereal spirit of chloride of iron prepared in this way having been formally official in a continental Pharmacopœia.

In a "Note on a Reaction of Glycerine and Polyhydric Alcohols," Mr. W. R. Dunstan recorded the observation that the acid solution obtained by the addition of glycerine to an aqueous solution of sodium baborate becomes alkaline when heated. The reaction is also given by many other polyhydric alcohols and by certain sugars.

The interest excited by the introduction of Professor Barff's "Boro-glyceride," has induced Mr. D. Hooper to make some experiments upon the "Solubility of Boric Acid in Glycerine." He finds that at zero 100 parts of glycerine dissolve 20 parts of boric acid, that at 100° C. the quantity dissolved is increased to 72 parts, and that between these two temperatures the solubility is represented by an almost straight line.

Mr. B. S. Proctor, having been somewhat sceptical as to the cause of the non-appearance of the results of oxidation in a commercial sample of liquor of iodide of iron, was induced to examine it, and the results furnished the subject of the next paper read. He proved the presence of phosphoric acid by its separation as ferric phosphate, and that of oxalic acid by its separation as ferrous oxalate. The liquor also did not contain the quantity of iodide of iron required to make a syrup of full strength, when used according to the directions accompanying it. At the conclusion of his paper Mr. Proctor somewhat cynically suggested that if any pharmacist feels impelled to any other expedient than that of keeping his solution in contact with an iron wire, he had better at least know what he is doing, and add the adulterations himself rather than buy the liquor ready adulterated, not knowing what it contains. Mr. Fletcher expressed a doubt whether any manufacturer who had a reputation to lose would add such a substance as oxalic acid, and, referring to the acidity of the liquor which had been mentioned by Mr. Proctor, said that it might be due to free hydriodic acid which is always formed. The usual *pro* and *con* statements with respect to the permanence of syrup of iodide of iron, and the effect produced by iron wire or light were made by different speakers, and Professor Tichborne expressed an opinion that a frequent cause of failure was that the heat was not continued long enough in making the solution of iodide of iron to sufficiently remove the hydriodic acid formed.

A "Report on the Strength of Commercial Samples of Tincture and Liquid Extract of Opium," by Mr. J. Woodland, was then read. Fourteen samples of tincture had been examined, and taking the percentage of morphia present as a criterion, eight of them appeared to have been prepared from opium exceeding in morphia strength the Pharmacopœia standard; the other six were more or less deficient. Of ten samples of liquid extract of opium none reached the standard, and in one or two cases the percentage of morphia was very low.

The last paper read was a "Report on the Purity of Commercial Samples of Silver Salts," also by Mr. Woodland. It stated that caustic points had been found to contain from 25 to 36 per cent. of potassium or sodium nitrate, crystals of silver nitrate from none to 19 per cent. of the same diluents, and oxide of silver from 13 to 26 per cent. of impurities. It was remarked by the President that potassium nitrate is avowedly added in the preparation of caustic points in order to give them greater toughness, and Mr. J. Williams said that nitrate of lead is used for the same purpose. Both Mr. Williams and Mr. Naylor expressed surprise at the statements with respect to silver oxide, and said that it did not usually contain more than 1 or  $1\frac{1}{2}$  per cent.

The next business of the Conference would have been to decide as to the place of meeting in 1883; but the President having stated that it was not yet settled what town should be visited by the British Association,—the arrangement with respect to Oxford having fallen through,—it was agreed to leave the decision in the hands of the Executive Committee.

The election by ballot of officers for 1882-83 then took place with the following result:

*President*—Prof. Attfeld, Ph.D., F.R.S., F.I.C., F.C.S.

*Vice-Presidents*—M. Carteighe, F.I.C., F.C.S., London; J. R. Young, Edinburgh; C. Umney, F.I.C., F.C.S.

*Treasurer*—C. Ekin, F.C.S., Hounslow.

*General Secretaries*—F. Baden Benger, F.C.S., Manchester; S. Plowman, F.I.C., London.

*Other Members of Executive Committee*—Alexander Kinninmont, F.C.S., Glasgow; J. C. C. Payne, Belfast; W. A. H. Naylor, F.C.S., London; R. Chipperfield, Southampton; P. W. Squire, F.L.S., F.C.S., London; G. S. Taylor, F.C.S., London; J. C. Thresh, D.Sc., F.C.S., Buxton; F. W. Fletcher, F.C.S., London.

*Auditor*—James Spëaring, Southampton.

Nothing now remained for the Conference to do but to record its sense of indebtedness to those friends who had contributed in various ways to make the meeting a success. First, the cordial and well-deserved thanks of the non-resident members were accorded to the Local Committee, and especially to Messrs. Randall,



Chipperfield and Dawson, for the successful way in which they had carried out the arrangements. Then a vote of thanks was passed to General Cooke, Director-General of the Ordnance Survey Department, for his kindness in affording facilities to the members to visit the Ordnance Survey Offices and inspect the operations going on there. Last of all came an enthusiastic vote of thanks to the President, for his conduct in the chair, and the members of the Conference then separated, not without some misgivings as to the weather for the evening excursion.

Any fears, however, which might have been entertained during the storm which raged on Wednesday night, as to the condition of the weather on the following day, were fortunately dispelled. The morning was faultless; the sun brilliant and the air delightful. Before half-past eight, the hour fixed for starting, members of the Conference were making a forced march to the pier-head, many, judging from an indescribable expression of "goneness" in their features, having evidently sacrificed breakfast to a heroic determination to be punctual. The steamer engaged for the trip was one of the finest boats in the Isle of Wight Company's service, and about one hundred and twenty excursionists, including a fair proportion of ladies, were on board when, a little before nine o'clock, the signal for departure was given. The run to Ryde was most enjoyable, affording as it did, glimpses of many objects of interest; Netley Hospital, with its magnificent facade, and the ruins of the fine old Abbey close by, well contrasted the spirit of the Past and the Present, and Osborne, so delightfully situated amidst the peaceful beauty of its surrounding, evidenced the gentle spirit of its Royal occupant.

Ryde was reached at 10.30, where a train was waiting to convey the party to Brading. Alighting here, a pleasant stroll through lanes and fields, rich in spoils for the botanists, brought the visitors to the remains of the Roman Villa. An inspection of the mosaic floors, some of which are in very perfect condition, and the many archæological treasures which have been turned up during the excavations, detained the company here until 12.30, when train was taken to Ventnor.

A short distance from the town, on the Bonchurch Road, a substantial luncheon was served on the lawn in front of the residence of Captain Roache, who had kindly thrown open his grounds for the reception of members of the Conference. The majority of the party then made their way through Bonchurch to the Land-slip. The magnificent scenery of this spot is too well known to need description; suffice it to say that the expanse of sun-illuminated sea on the right hand, and the solemn grandeur of the grey crags to the left, intermingled with the varied tints of the luxurious foliage, made up a scene which by those who witnessed it for the first time will never be forgotten, and which by those who had already seen

it many times before will ever be remembered with increased delight.

On the road along the cliffs to Shanklin stands the private residence of Mr. Gibbs, of Ryde, and at this point a pleasant surprise awaited the excursionists. Mr. Gibbs, gracefully assisted by his wife, welcomed into his house successive detachments of the party as they arrived; and beneath his hospitable roof every kind of comfort and refreshment was set before them. In the dining room were choice wines and fruits, and in the drawing room tea, coffee, and other light refreshments. Coming as it did so unexpectedly, and dispensed so courteously and generously, Mr. Gibbs's hospitality constituted one of the most delightful incidents of the trip.

After passing through the village of Shanklin and visiting its celebrated Chine, the party returned by rail to Ryde, and thence by steamer to Southampton, where, at 7.30, high tea was served at the Royal George Hotel. Numerous speeches followed, and at a late hour the company dispersed, unanimous in the opinion that a pleasanter excursion had never been spent by the Conference.

Amongst the members of the Local Committee singled out for special thanks were Mr. Randall, the courteous Chairman, Mr. Dawson, the assiduous Honorary Secretary, and last, but not least, Mr. Chipperfield, the energetic "Acting Manager."

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### ALCOHOLIC STRENGTH OF BITTERS.\*

Dr. H. W. Vaughan, State Assayer of Rhode Island, has made a report on the analysis of the various "Bitters" found in the market, classifying them in three divisions: 1. Beverages. 2. Medicinal Beverages. 3. Reputed Medicines. The percentage of alcohol in some of Class 1 is as follows:

Hostetter's .....	43°20
Baker's .....	40°57
Drake's Plantation Bitters.....	38°24
Wild Cherry .....	35°89
Standard Wine Bitters.....	25°49
Peruvian Bitters.....	22°40
Sherry Wine Bitters.....	22°40
California Wine Bitters .....	18°20

These of the second class vary from 40·10 per cent. of alcohol in Atwood's Quinine Bitters to 16·68 in Luther's Temperance Bitters. Those of the third class, professedly designed as medicines, but very well suited for forming a taste for all kinds of strong drink, vary from very strong to very weak. For instance:

\* Druggists' Circular.

Richardson's has .....	59°14
Warren's Bilious Bitters.....	29°60
Atwood's Jaundice Bitters.....	25°60
Puritan Bitters .....	25°50
Hoffland's German Bitters .....	20°85
Oxygenated Bitters .....	19°23
Walker's Vinegar Bitters.....	7°50
Pierce's Bitters .....	6°36

## THE PRODUCTION OF PEPPERMINT OIL.\*

During a recent visit of the Editor to Wayne County, in this State, an opportunity occurred for obtaining information respecting the production of peppermint oil in that region. It is now upwards of fifty years since peppermint was first cultivated in that locality for its oil, the first attempt in the business in this country having been made in Massachusetts. For many years it has also been grown in a few counties in Ohio and in some parts of Upper Canada (Ontario). Its growth in Michigan was first undertaken in 1855, and has since steadily increased. Western New York, however, produces the largest quantity of oil, and it is said that the products of that region are characterized by a finer aroma than that produced in most localities in this country. Of late, growers and refiners have devoted special attention to the selection of the best varieties of the plant and to the quality of the product. In Wayne County alone, more than 3,000 acres of mint are cultivated annually, with an average yield of about 20 pounds of oil to the acre, or a total yearly production of over 60,000 pounds.

At different times the magnitude of the business and the limited area within which it is carried on have led to extensive speculations. At one time the production of the entire county was controlled by a single firm who contracted with the large growers to discontinue the raising of mint for five years.

Todd, in the *Proceedings of the Am. Pharm. Asso.* for 1876, page 828, estimates that the annual production of oil of peppermint throughout the world as about 90,000 pounds which would show that by far the largest portion—certainly two-thirds—comes from the Wayne County, N. Y., region. At Mitcham, in Surrey, England, about two hundred acres are devoted to this crop, and owing probably to the peculiarities of the climate, soil, and in part to the variety of peppermint cultivated, the product is of especial excellence. Some peppermint is also distilled in Germany, in the region about Leipzig, and in France, in the department of the Yonne, and in Southern India.

\* From New Remedies.

In China and Japan, the peppermint oil there produced is characterized by the large proportion of the stearoptene, menthol, or peppermint camphor. In China, the *mentha javanica* Bl. is the plant commonly cultivated, and its product consists almost entirely—so it is said—of this camphoraceous substance.

When ordinary peppermint oil is cooled 8° F. below zero, hexagonal crystals of menthol are sometimes separated, leaving a fluid substance the chemical composition of which is not yet well understood. In England, two varieties of mint are employed, called the "black" and "white" mints. There are few botanical characteristics published, by which the two varieties can be distinguished, except that the former is usually much the coarser plant, and its stems are more tinged with purple; it flowers somewhat later, and the oil it affords is more abundant but less valued.† The stems of the *white mint* are green, and its leaves are rather more coarsely serrated than those of the "black" variety†.

Peppermint should be grown on a warm, rich soil, which is not too dry, since it produces plants which are too small. On the other hand, the plants grown on wet soil, fail to produce oil in paying quantities. Gravel or clay are, therefore, unsuitable soils. The land should be well ploughed as late in the fall as possible, and either cross-ploughed or thoroughly pulverized in some other manner. Early in the spring the land should be laid off in furrows twenty-four to thirty-six inches apart, and "sets" or portions of the roots of old plants are to be thickly placed in the furrows, and covered lightly.

The plants must be kept free from weeds until they cover the surface of the soil, which they will do completely by the second year. Many of the cultivators of peppermint on the rich bottom lands of the Ganargua Creek of Wayne County are German, and men, women, and children may often be seen in the fields in the season engaged in cultivating the crop.

The harvest commences early in August or as soon as the plant is in flower (by which time it will have attained a height of about two feet or upwards), and continues into September; warm or hot weather being essential at harvest time that the plant may produce oil abundantly. The first crop is the best; the crop of the second year less desirable, and on the third year the ground may be again ploughed, and the crop allowed to spring up from the broken roots. The yield in the third year, when the ground is treated in this manner, is somewhat less than that of the first year. After this, the land should be devoted for a time to some other crop. Not only is the yield most abundant the first year, but the crop is more free from weeds than during the subsequent years,

† Medicinal Plants by Bentley and Trimen. Philadelphia: Lindsay & Blakiston, 1880.

‡ Pharmacographia [2], 484.

and the oil is correspondingly purer. The weed which causes most trouble is the *Erechtites hieracifolia* Raf., otherwise known as "broomweed," "mare's-tail," "fire-weed," etc., a composite (like lettuce) yielding a volatile oil which is bitter and pungent, and by its presence impairs the naturally fresh, penetrating, and delicious taste of the pure oil of peppermint.

The mint is cut with a sickle, scythe, two-fingered cradle, or mowing machine, according to the option or carefulness of the cultivator. It is then allowed to wilt in the sun for five or six hours, and then is raked into "cocks," where it is allowed to remain a short time before being distilled. This process is found to give a larger yield of oil and to improve the color of the product.

Not every cultivator is provided with a still; but such appliances are found distributed about the region at accessible distances. Some are of the most primitive character, while others are constructed most elaborately. The apparatus and method differ from that employed in Europe, where the fire is applied to the still. In this country, the still consists of wooden tub or vat of heavy staves hooped with iron, and of a size to correspond with the amount of steam furnished by a boiler. The vats seen by the writer were four to five feet in diameter and twice as deep.

The wilted mint is packed into the vat by treading with the feet until the vat is full, when a cover, made steam-tight with rubber-packing, is fastened down with screw clamps. A steam-pipe connects the lower part of the vat with a steam boiler, and another pipe from the centre of the cover connects the vat with the condensing worm. The latter varies in size according to the capacity of the still, but becomes progressively smaller towards the outlet. The worm is so placed as to have a constant stream of cold running water surrounding it. The steam from the boiler being admitted to the vat at a pressure of thirty to forty pounds, the oil of the mint is volatilized and mixed with the steam it is condensed in the worm. The mixed oil and water are collected in the receiver, where the difference in their specific gravity causes them to separate. In many instances, the receiver is a tin vessel with a small pipe opening from its lower part and ascending nearly to the top, where it turns outward. The weight of the oil causes the water in the lower part to ascend in the discharge-tube until it overflows from the pipe. In the meantime the oil is dipped from the vessel whenever a few pounds have accumulated. No attempt is made to redistill the water which separates, and a considerable loss of oil, which is held in solution, doubtless results from this lack of economy. The oil is packed in tin cans or glass demijohns, holding about twenty pounds each. The glass demijohns are much the best where the oil is to be kept any length of time, as its good qualities are more fully retained, and it is less liable to discoloration. From the oil thus produced, the refiners and exporters make their selections, and upon their judgment in selecting, skill in refining,

and their honesty, as well as the care used in excluding foreign plants from the crop, depends the quality of the oil found in the market. It is very probable that most of the adulteration which the oil undergoes takes place after it has left the hands of the original refiners and dealers. At the present time, Wayne County, N.Y., grows, refines, and exports the greater quantity of all the oil of peppermint grown in the United States and Canada.

The principal firms who buy the oil of the growers and refine it and place it in the market are H. G. Hotchkiss, of Lyons, N.Y., who for many years has been engaged in the business; A. S. Hale, of Lyons; L. B. Hotchkiss, of Phelps, and Pierson and Perkins, of Newark. The latter firm are also growers and distillers of peppermint, and have lately introduced from England new and improved methods and appliances in distillation and manufacture which insure the purity of their productions.

Oil of peppermint is sometimes adulterated with turpentine and also with oil of hemlock. Pure oil of peppermint as exported from Wayne County is colorless, and resembles the English oil, except that its odor and taste are somewhat less pungent and penetrating. The oil deteriorates with age, and the aroma becomes more faint. After a certain number of years, it thickens, and the color becomes of a yellowish tinge. Exposed for a long time to air, it becomes resinous.

In some instances the boiler is used for supplying power for other purposes when not required for distilling. In one building cider and wine making, feed cutting and grinding, box making, wood sawing, corn shelling, and other industries were from time to time carried on, so that the actual cost of distilling the oil was very considerably diminished, and the steam apparatus could be made to yield a good revenue.

In every case two vats or still-tubs were arranged side by side, so that the process of distilling could proceed in one while the other was being emptied and refilled. The exhausted mint is taken out with forks and dried for fodder, and we observed that some which had been kept from last year's crop had a aroma resembling well-cured hay. Cattle of all kinds prefer it to other fodder, but they will not touch the green herb. This fact is sometimes taken advantage of by turning sheep into a field of mint in order that they may clear it of grass.

The worm for condensing the vapor from the still is usually made of ordinary tinned plate iron, such as is used for domestic utensils, and from its commencement at the cover of the vat to its further extremity it gradually diminishes in size from two and a half or three inches to about one inch. The simplest mode of arranging the condenser is to lead it back and forth by means of angles, through a running stream, the water being dammed by means of a board, a space is left below the dam where the collecting-vessel can be set.

## CARLSBAD SALT.

According to a recent communication in the *Pharm. Centralh.*, the process of obtaining the salts from the natural Carlsbad water has been considerably modified within the past year in accordance with the recommendation of Professor Ludwig. The process followed is to boil the water of the Sprudel spring, filter out the dross (silicates, manganese, iron, calcium, and magnesia), evaporate the filtrate by steam, and treat the resulting salt with carbonic acid gas from the Sprudel water to saturation. This is done with the object of restoring the carbonated salts to their original condition of bicarbonates. The result is a salt which, when dissolved, yields an exact representation of the original spring water. The composition of the salt is as follows:—

Bicarbonate of soda.....	35.95
“ lithium .....	0.39
Sulphate of soda.....	42.03
“ potash.....	3.25
Chloride of sodium.....	18.16
Fluoride “ .....	0.09
Borate “ .....	0.07
Silicic acid (anhydrous).....	0.03
Oxide of iron.....	0.01

From 1 litre of the water about  $5\frac{1}{2}$  grammes of the salt are obtained. Professor Harnack also testifies to the great improvement in the preparation of this salt by the new process, which he regards as of great therapeutical importance. He points out that the new salt contains only about half the quantity of water which was formerly contained in it, being by so much stronger,—*Chemist & Druggist*.

### AN INSTRUMENT FOR DETERMINING THE STRENGTH OF ALCOHOLIC SOLUTION.

At a recent meeting of the Suffolk District Medical Society of Massachusetts, the Secretary showed a small and simple instrument, of French manufacture, for determining the strength of alcoholic solutions. It consists of a small strip of wood which is laid across the top of a tumbler or wine glass containing the solution to be tested; this acts merely as a holder for a piece of capillary tube, such as thermometers are made of, which is slid vertically through an opening in the wood until the lower end of the tube just touches the surface of the liquid. As soon as the tube touches the liquid, the latter is drawn up by capillary attraction, and the point to which it rises is read off on the scale on the tube

which is graduated from 0 to 20: these numbers indicate the per cent. of alcohol. Or better, the liquid is sucked up a little way, by applying the mouth to the upper end, and allowed to run down to a point where it remains fixed.

The basis of the method is, that in the same tube water is drawn up by capillary attraction very much higher than alcohol, so that when alcohol is present in the water it lessens the height to which the mixture will rise in a capillary tube.

The scale goes only as high as twenty per cent. of alcohol, but with stronger solutions a small quantity may be taken and diluted with once or twice its volume of water before testing.

By this instrument one may readily determine the per cent. of alcohol in dry wines, but not in those containing much sugar, as this acts in a way similar to alcohol.—*New Remedies.*

## SOLUBLE PRUSSIAN BLUE.

The usual process for preparing soluble Prussian blue consists in precipitating a ferric salt with an excess of ferrocyanide of potassium, and washing the precipitate on a filter with distilled water until the filtrate begins to show a blue tinge. The precipitate is then dried at a gentle heat. As the manipulation is a long one, M. V. Demandre, a French pharmacist, proposes instead the following rapid and easy process:

Pure Prussian blue.....5 drachms.

Ferrocyanide of potassium.....2½ “

Distilled water sufficient.

Rub the two salts to a fine powder in a mortar, and add from two to four pints of distilled water, according to strength desired. After half an hour's contact, with occasional agitation, the clear liquor may be decanted or filtered off from the insoluble portions.

**TREATMENT OF SORE EYES.**—This disease of the eyelids which is variously known as blepharitis, tinea tarsi, ophthalmia tarsi, blear eye, etc., is made the subject of some remarks by Dr. C. H. Brown, in the *Phila. Med. & Surg. Rep.* After removing the crusts from the margin of the eyes by soaking and washing in a warm dilute solution of borax, or bicarbonate of soda, he applies the following:—Hydrarg. oxid. flav. 10 grains; balsam Peru, half a drachm; vaseline, one ounce. A less irritating application is boracic acid, 40 to 60 grains; vaseline, half an ounce. Apply at night; wash off next morning, and repeat for a few days.



## Editorial.

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### SALE OF ARSENIC AS A RAT POISON.

The enterprising American who conceived the idea of bringing out common arsenic as a new rat poison, and selling it to druggists and the public at an exorbitant price, is a brilliant man, and will doubtless rise to a high position in the state. With consummate coolness and effrontery all opposing laws have been disregarded or evaded, while considerations affecting human life have been simply ignored as matters of little importance, when placed in the balance against the success of the individual. This Napoleonic rat poisoner is, however, likely to receive a slight check by those who entertain fears as to the propriety of introducing arsenic as a household necessity, and also providing a virulent poison ready to the hand of the murderer or suicide.

The October number of the *Chemist & Druggist* contained a warning from Mr. A. H. Mason, analytical chemist, of Liverpool, England, that "Rough on Rats" is composed of colored arsenic, and the trade had better register sales as required by law. A month later this was followed in this country by a communication to the city press from Dr. Zimmermann, of Toronto, calling attention to the fact that a man had recently committed suicide by taking some of the poison, and that another case, that of a young girl, was then being attended by the doctor. An examination of the remaining powder from the box from which the poison had been taken showed it to consist of colored arsenic, as in the Liverpool case, the proportion being 99 per cent. of arsenic and one per cent. of charcoal.

When two cases of poisoning from the same substance take place within a period of ten days, in a city of 100,000 inhabitants, it is surely time to call in the aid of the law, and we would therefore advise all druggists to register the sales of this poison precisely as if it were arsenic. This will at the same time hold the druggist harmless and act as a check on the purchaser. We may also be allowed to remind our druggists that they may possibly find it more profitable to color their own arsenic, and sell it under proper restrictions, than to purchase "Rough on Rats" at a high price, and scatter it broadcast without let or hindrance.

## WORTHLESS DRUGS IN THE LONDON MARKET.

The question of the propriety of advocating the appointment of drug inspectors in England is being agitated by some prominent members of the Pharmaceutical Society. It appears that lately some large parcels of very inferior drugs have been put upon the market. For instance, upwards of a ton and a half of ipecac, which, on examination, was rotten and worthless, was sold recently for a comparatively high price; and jalap tubers, previously exhausted of jalapin, and balsam of tolu containing only forty per cent. of resin, were also offered. Honest wholesale druggists naturally complain of this state of things, and as similar instances are to be noticed at every trade sale, have sought the co-operation of the Pharmaceutical Society to devise a remedy.

The appointment of drug inspectors is one of the first things suggested. In the United States such officials watch the market, and prohibit the importation of drugs below the standard. In England the officials have only power to seize and destroy articles of food, such as tea and fish, which are unwholesome. In the case of worthless drugs the injury to the public is equally great, and as it applies to the sick, the deception is even more cruel. On the other hand, it is feared that the appointment of inspectors would be very injurious to the London market. Nearly all the drugs in the world go there or to Hamburg, and it is thought that many drugs which might be utilized would be driven or kept out.

After a lengthy discussion of this subject by the Council a committee was appointed to consider and report what steps should be taken in the matter, and from the thoroughly earnest manner in which the question was taken up, some remedy will no doubt be provided to check such pernicious practices as now prevail.

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## ONTARIO COLLEGE OF PHARMACY.

The next term of the College will commence on Tuesday, March 13th, and terminate just before the Summer Examination, on Tuesday, June 19th.

Forty students are in attendance at the present time, and there is every prospect that a large number of candidates will

enter for the Winter Examination, commencing on Tuesday, January 30th. Those who intend to come up should send in their names, accompanied by a fee of four dollars, to G. Hodgetts, Registrar.

The Council meeting will be held on Wednesday, February 7th, commencing at three o'clock in the afternoon,

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—Mr. William Saunders, of London, Ont., has entered on his duties as Professor of Materia Medica in the new Medical School in that city. The attendance so far is encouraging, and there is every prospect that the school will be a permanent success.

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## Editorial Summary.

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CELERY SEED is the last addition to new remedies. It is said to possess valuable properties as a nerve tonic, and has already been put upon the market in a proprietary form.

A CORRESPONDENT of the *British Medical Journal*, says that pediculi may be destroyed by saturating the hair several times with alcohol or methylated spirit, and allowing it to evaporate.

DR. ALDER SMITH, in the *Lancet*, recommends a mixture of 10 parts of oleate of mercury with 90 parts of heavy petroleum oil as the most stable and efficacious application for chronic ring-worm.

DURING the year 1881, 567 candidates were examined for the "Minor" qualification in Great Britain, of whom 50.6 per cent. failed. The "Minor" corresponds as nearly as possible with our examination in Ontario.

ACCORDING to a German authority a very pure and well-flavored spirit can be made by the fermentation of chicory root, which contains about one quarter of its weight of substances convertible into sugar.

THE coca plant, heretofore confined to the western part of South America, is being cultivated in Ceylon. It is to be hoped that this will improve the quality of the commercial leaves supplied here, which, since the Peruvian war has been very bad.

Now that the winter season is on us it may be well to make a note of the statement of Lapatin, a Russian surgeon with the troops in the last Turkish war, that a mixture of equal parts of dilute nitric acid and peppermint water is an effectual cure for frost bite.

WOHLER, the celebrated analytical chemist, died recently, in his 82nd year, at Gottingen, of intestinal catarrh. The death is also reported of Leclanche, of Paris, the inventor of the well-known pile or battery, from which he amassed a large fortune. M. Leclanche was 43 years of age.

A GERMAN physician having observed that the administration of preparations of calabar bean causes tetanus of the muscular coating of the intestines, has applied his knowledge of the fact by trying the drug as a remedy in obstinate constipation and with very satisfactory results.

THE propagation of sponges by cuttings has so far been quite a success. McKesson & Robbins have received from Florida four good sized sponges from cuttings planted last December. In six or seven months cuttings of the size of a peach will grow to six inches in diameter, and in about a year yield large sponges.

A CASE of poisoning from the administration one and a half ounces of ethereal extract of male fern is reported from Ceylon in the *Medical Press*. This quantity was given with powdered kamala in two doses. The first occasioned considerable distress, and the second caused death in about twenty-four hours, violent diarrhoea being produced.

THE annual report of analyses of food and drugs in Great Britain during 1881 shows that 17,283 analyses were made in that period, of which 5,000 were performed in London. Fourteen per cent. of the samples were found to be adulterated. The highest per cent. of adulteration was in the case of "spirits other than gin"

—28 per cent.—then follows gin, 25; milk, 20; and coffee, 18 per cent. of adulteration.

ACCORDING to Dr. W. H. Morse, a writer in the *Therapeutic Gazette*, populin can in all cases be substituted for quinine, as it possesses like anti-periodic, tonic, and antiseptic powers. The dose stated is from five to twenty-five grains. If what is stated receives confirmation, populin will be decidedly preferable to quinine on the score of economy.

It is said that the beneficial effect realized by persons suffering from pulmonary disease, on breathing emanations from manure in stables, is attributable to the carbonate of ammonia in the air, and that the same effect will follow if a small bag of the carbonate be suspended from the neck of the patient. Several experiments on persons suffering from bronchitis gave confirmatory evidence of this.

A substitute for lime juice has been used very successfully by Dr. Clarke, Deputy Surgeon General for one of the East Indian districts. It consists of green mangoes, skinned, stoned, cut into pieces and dried in the sun. Half an ounce is said to be equal to one ounce of lime juice, and from actual trial by the troops has been found sufficient to maintain the digestive energy and prevent scorbutic disease, when neither vegetables or a variety of food are obtainable.

FROM the annual report of the Pharmaceutical Society of Ireland we learn that in January of this year there were on the books 201 licentiates and 92 members. During the year there had been a slight increase in the number of the former class, and a decrease of four in the latter. All things considered, the Society, like Ireland itself, is not in a very prosperous state. Dr. Tichborne was re-elected president, Dr. Aquilla Smith, vice-president, and Mr. Vennell, secretary.

THE *Chemist & Druggist* describes a little passage at arms between M. Pasteur and Dr. Koch at the International Congress of Hygiene held at Geneva. M. Pasteur, who, as a Frenchman, is a warm German-hater, read a paper to which Dr. Koch alluded sneeringly, but declined to discuss it, as he said M. Pasteur did not

understand German, and he could not understand French. The customary duel was averted by the President of the Congress who happily remarked that a variance of opinion between two of the greatest authorities could not fail to be of advantage to the world generally.

THE cinnamon growers of Ceylon are not satisfied with the fact that the export of bark for the last ten months, up to Sep. 30th, shows 385,000 pounds of "chips," and only 10,288 pounds of "quills." The latter sell in the London market at 2s. or 3s. ; the chips may be had for 2d. or 3d. per pound. Growers have combined together to stop as much as possible the exportation of chips so as to raise the price of the quills, and those interested are requested to stop the scraping of chips on their estates, say for a period of three years, save for the purposes of their own stills, and those of their constituents.

DR. ROBERTS, in the London *Lancet* proposes the use of a saturated solution of common salt as a test for albumen in urine. The test liquor is made by adding a fluid ounce of hydrochloric acid to a pint of distilled water, and saturating with common salt. In testing, the urine is put in a test-tube and a little of the solution poured in, so as not to mix the liquids. A white cloudy stratum at the juncture of the liquids indicates albumen. An excess of urine will precipitate all the albumen. Resin in the wine, from the use of copaiba, etc., shows a cloudiness, but it disappears on shaking with excess of urine.

ACCORDING to the *Chemist & Druggist* there is quite a little excitement in trade circles over the matter of white pepper. It is alleged that there is an attempt to form a ring, and, in any case, the price has advanced considerably. This has had the effect of bringing into market a new product made by decorticating black pepper by machinery. The pepper so produced is smaller and more polished than that made in the East by "sweating off" the black outer skin. It appears to be of similar quality to ordinary white pepper, and 100 bags, lately offered, brought a price nearly equal to that of the best white pepper.

AN answer to the query, "What do we require of those we re-

ceive as apprentices?" formed the subject of a paper read before the Kentucky Pharmaceutical Association. The author's conclusions may be thus summed up: The apprentice should be honest, naturally quick in his movements, polite, neat in person, be orderly and attentive to small things. We would add to these that the apprentice should be educated, capable of receiving and retaining instruction, careful, have a natural predilection for the business, not afraid of dirty work and be of good moral character. We have ourselves an opening for a guaranteed youth of this description.

IF the restorative properties of damiana are really at all equal to what is claimed by various writers in the *Therapeutic Gazette* the population of the country will undoubtedly be much increased if the use of the remedy becomes at all general. Probably old Dr. Parr, who, if we forget not, begot children after his hundredth year, was acquainted with this remedy. Dr. Bentley, of Kentucky, cites a case in which a patient of his, 65 years of age, took a teaspoonful of the extract of damiana, twice a day, until he had consumed two pounds, and though he had been impotent for eleven years, his desire and capability have been revived and "he now finds it difficult to restrain himself within what he considers reasonable bounds."

ACCORDING to *L'Union Medicale* Messrs. Martiniau & Hamonic have succeeded in cultivating the bacteria of syphilis by immersing an excised chancre in some of Pasteur's culture fluid. In six hours a grey deposit had formed, and in twenty-four hours the bacteria were recognizable. A pig was inoculated with the bacteria, and a second pig with matter from a chancre. In twenty-four hours bacteria were found in the blood of the first pig, and in four days they were apparent in the blood of the other pig. The bacteria are described as rod-shaped, of variable length, but not exceeding that of the diameter of a blood corpuscle. They are joined together in pairs, or groups of two, with an intervening space between. They move around a central axis, one end of the rod or gauge being fixed, and the other moving in the segment of a circle.

DR. SQUIBB, in his *Ephemeris*, says that citrate of iron and quinia was inserted in the U. S. P. of 1860 in order to supply a

preparation so slowly soluble as to allow of its being taken in pill form, or suspended in syrup, in this way avoiding the bitterness of the quinine, which, to sensitive patients, proved destructive of appetite. In course of time, either through want of knowledge of thought, physicians began prescribing it in solution, and a demand for a more soluble preparation gradually sprung up, which was met by an article containing a greater quantity of citric acid. It is also hinted that the increased bitterness was in part remedied by diminishing the quantity of quinine—a charge for which there is some foundation of truth. This more soluble citrate has driven the old preparation out of the market, and this state of things Dr. Squibb strongly deprecates, inasmuch as the original intention of the medicine has been defeated. We are too much of an optimist to hold with our esteemed friend in this matter, and think that the very fact of this change taking place shows it to be right, but at the same time, it might be well to retain the less soluble form of the citrate so that it could be administered in the forms for which it was designed.

IN making tinct. camphoræ co., B. P., it occasionally occurs that a portion of the oil of aniseed ordered will not dissolve, or is separated by a decrease in temperature. This is accounted for by Mr. J. Bland—who read a paper on the subject at an evening meeting of the British Pharmaceutical Society—by the fact that oil of aniseed of commerce is generally derived from star anise, *Illicium anisatum*, and that this oil is less soluble than that from aniseed, *Pimpinella anisum*. The London Pharmacopœia recognized only the latter, but the B. P. takes in both oils as official. It is generally thought that oil of star anise is preferable to that from the seed, as stated by Dr. Pereira, but the difference in solubility has not, heretofore, been taken into account. Some rough experiments made by Mr. Holmes show that the star anise oil is only about half as soluble in alcohol as that of true aniseed. Mr. Bland suggests that the latter only be employed in medicine, and attaches some importance to the alleged poisonous properties of Japanese star anise; but as the poisonous principle, as far as known, is soluble in water, it is not clear that it would be contained in the oil, and it appears more probable that any harmful effects attributed to the oil would more likely be due to



contamination with lead or copper derived from the vessels in which the oil is imported.

DR. W. C. REITER, of Pittsburg, sends to the *Ephemeris* a long communication in regard to his experience of burdock seed as a remedy for psoriasis inveterata. The doctor inherited the disease from his father, who had it from a long line of progenitors, and from what the author says of "the maddening itch" of his "accursed tetter," it was, no doubt, a confirmed case. He accidentally met a farmer who had cured himself of this disease by taking a medicine made by soaking burdock seeds in whiskey, and was told that by following a similar treatment he would probably be cured. The doctor remembered the case of Naaman, and the words of his servants, "If the prophet had bid thee do some great thing wouldst thou not have done it?" and resolved on venturing on a course of the despised remedy, which, to make a long story short, effected a complete cure, and also improved, in a remarkable degree, the nutritive, secretive and assimilative functions. The preparations used were submitted to Dr. Squibb, who thinks a tincture of the bruised seeds in whiskey, in the proportion of two ounces to the pint, the most eligible preparation tried. Of this, the maximum dose is four fluid drachms, well diluted, three times a day, immediately after meals, and continued for months, if necessary—which does not appear to be often the case. In atonic dyspepsia, for which the remedy is also used, a dessertspoonful, well diluted, before meals, is recommended.

IN a recent number of the *Ephemeris* Dr. Squibb publishes an important but very lengthy paper on aconite preparations which contains some rather surprising statements, quite at variance with received opinions as to the drug. It must, however, be conceded that the subject has never been thoroughly understood, and much uncertainty prevails, more especially as regards the comparative strengths of the preparations of aconite, as well as of the root and leaves themselves. We shall try to present the conclusions arrived at by Dr. Squibb, but those specially interested will derive much pleasure from a perusal of the original paper, which appeared in the last number of the author's publication. First as to the mode proposed by Dr. Squibb to test the activity of the drug, for on this the results arrived at in the paper mainly depend.

The taste or peculiar impression produced on the tongue and lips is relied on as a test. As a measure of strength it cannot pretend to great accuracy, but it is said to be sufficient to serve all the practical purposes of the physician and pharmacist. A well made fluid extract is selected as the standard, and it should be of such a strength that when diluted with 600 parts of water, or one-tenth of a minim to the fluid drachm, the solution should give a distinct aconite impression in the mouth within fifteen minutes. The details of the test are as follows: Put  $12\frac{1}{2}$  fl. oz. of water in a proper vessel, and add to it ten minims of fluid extract of aconite, stir and allow it to stand for an hour; rinse out the mouth with water so as to free the surfaces from mucus and saliva, and allow one fluid drachm of the aconite solution to come in contact with the anterior part of the mouth, allowing it to remain there precisely one minute, by the watch, and then discharging it. The tingling aconite impression should be felt within fifteen minutes, and should last for a quarter or half an hour. In order to perform the test more expeditiously a stronger solution of aconite is selected as the standard of comparison. It was found that with one-third of a minim to the drachm of an extract of the above strength, or 1 in 180, the tingling sensation was produced in from five to ten minutes, increased for three-quarters of an hour, and continued for an hour and a half. This dilution is therefore adopted as the best for comparison. In applying this test to aconite leaf it was found that the root was nine times stronger than the leaf, and therefore if the dose of the extract of the root is one minim, that of the leaf will be nine minims. Stille and Maisch give the dose of the root and leaves as the same, indicating like strength; and Bentley and Trimen say that the root is six times stronger than the leaves. Other authorities differ more or less widely, but none of them make out the leaves to be as low in strength as Dr. Squibb. The extracts and tinctures of aconite when referred to this standard give the following results, the quantities stated being equal to one minim of standard fluid extract, or one grain of powdered root:—Alcoholic extract of root; one sixth of a grain; U. S. P. tincture, 2.66 minims; B. P. tincture, 8.4 minims; Ph. G. tincture, 11.8 minims; Flemings tincture, 1.5 minim; powdered aconite leaf, 9 grains; dried extract of aconite leaf, 1.5 grains; Allen's extract (English), 1 grain; tincture of aconite leaf, 72 minims. The

aconitines of commerce, comprising that bearing the name of a prominent American firm—selling at \$14 per oz.; Merck's ordinary aconitine, \$13 per oz.; Merck's aconitine from Himalaya root, \$40 per oz.; and Duquessnal's (Paris) aconitine costing \$105 per oz., were also examined. It was assumed that the yield of aconitine from the root is .07 per cent., that is that one grain of aconite powder is equal to .0007 grain of aconitine, or one tenth of a minim of the standard fluid extract to .00007 aconitine. The first named aconitine was only found to be of the same strength as the fluid extract; the second 8 times as strong; the third. 83 times, and the fourth 111 times. A very curious observation was made with regard to solutions of these substances, and also to dilute aqueous solutions of the drug generally, namely, that such solutions deteriorate very rapidly, diminishing in strength after two days, and in four days giving no aconite impression at all. This, if confirmed by further observation, has a most important pharmaceutical and therapeutical bearing. It was noticed that after the second day shreds of mycelium were to be seen floating in the solutions, and it is probably to the growth of these cryptogams that deterioration is to be attributed. Dr. Squibb found the oleate of aconitia of a strength of two per cent. to be the most eligible form for external use. One minim of this, applied with a cork or some non-absorbent substance, is a sufficient dose, and if continued will produce constitutional effects. The author is of opinion that the best preparation, and the only one required for internal use, is a well-made fluid extract, of such a strength as to correspond with the test we have described. It also answers well externally if dropped upon the skin.

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## Correspondence.

### THE LATE COUNCIL MEETING.

LONDON, Ont., Nov. 14, 1882.

*To the Editor of the Canadian Pharmaceutical Journal,—*

DEAR SIR,—Your issue for November contains a reply by Mr. W. B. Sanders, of Stayner, to the letter published by Mr. Yeomans and myself, in the October number, on the late council meeting, to which I desire to reply in as few words as possible.

Mr. Sanders coolly states that our letter is a misrepresentation

of facts, our grievance an imaginary one, and our *facts* simply *mis-statements*. How *facts* can be *mis-statements* I leave to Mr. Sanders to explain and if he can find a simple statement in the letter which is not *strictly true in every particular* I shall be very glad to have it pointed out, and be glad also of the opportunity of withdrawing it. Mr. Sanders knows very well that the unbusiness-like adjournment complained of (which was *forced* upon those of us who came there to attend to business) at mid-day was all planned before hand, and for the sole purpose of giving those gentlemen a chance, as they expressed it themselves in the council room, of having a good time, for which of course the college funds were to be taxed.

It is a common practice where one has a weak cause to defend to bring in outside matter so as to draw the attention of the reader away from the main points at issue, hence Mr. Yeoman's fees and mileage are made to do duty as if they were exceptional in their character. It is only necessary to state, in justice to Mr. Yeomans, that he draws nothing more than the other examiners, and nothing more than the fee voted by the council for this purpose. Mr. Sanders, of Stayner, draws the same mileage fee and the same fees for attendance at council meetings.

Mr. Sanders accuses Mr. Yeomans and myself of a factious opposition. I leave it to the good sense of any member of the college whether we should be performing our duty as members of the council were we to stand by and see the funds of the college wasted in such a jocular manner without a protest. For one I hope to be always found factious if this is faction.

As proof of the necessity for another day's session Mr. Sanders points to the fact of the council having to hold an afternoon as well as a morning session the following day, but he seems to forget that nearly all the afternoon session from 2.30 to 3.40 was occupied in discussing the protest sent in by Mr. Yeomans and the writer. Mr. Sanders states as a further excuse for adjournment that the reports were not all ready; true the auditors' report was not ready, but the others were, and *it* was promised for the afternoon session.

Mr. Sanders pays me the compliment of crediting me with refunding fees which I felt I was not entitled to, but expressed himself in such a way as might lead some to suppose that I had taken monies which did not properly belong to me and returned them afterwards from conscientious scruples. I can remember only two instances when I returned fees which have been paid me by the College. In one instance, when the subject of examiners' fees was under discussion, I earnestly advocated a reduction, which has since been adopted; at that time my motion was defeated and I took the fees which by the vote of the Council I was entitled to, but did not intend to retain them, as I thought it would be inconsistent with the stand I had taken. Feeling, however, that the

other members had as good a right to their opinion as I had to mine, I did not care to make a display of returning them in the presence of the other examiners, and sent a portion back in a letter to the Registrar, on my return home, retaining only the sum I had been advocating should be paid. The other occasion was at the time when this same Council adjourned about mid-day, because some of the members wanted to go on an excursion to Niagara. I sent in a written protest on that occasion also which was shelved. On receiving my fees that afternoon, which had been put up by the Registrar, as usual, in an envelope, I did not look at the sum until I had occasion to use it at the hotel, when I found enclosed one day's allowance more than I was entitled to. I went to the Registrar, returned him the extra day's fee and asked him how it occurred, when he said he had been told to put up that sum as there was to be another days session ; evidence sufficient to satisfy me that this adjournment had also been arranged before hand.

One more point in reference to expenditure. Until of late it was customary to receive the daily allowance for expenses only for the days employed in actual session in Toronto, the mileage rate of 4 cents being held sufficient to cover all travelling expenses, now the members require that the time occupied in going to and returning from the place of meeting be also counted in. A temptation, to some to extend the time unnecessarily.

WM. SAUNDERS.

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## Practical Formulæ.

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### CHAMPAGNE CIDER.—

Good ripe cider.....	100 gallons.
Strained honey.....	3 “
Skimmed milk.....	4 pints.
Cologne alcohol .....	3 to 4 gallons.

Mix the honey with the cider, set the mixture aside for a week and clarify it with the skimmed milk. Then add the alcohol, and after three or four days bottle the cider, using good corks and fastening them with cord or wire. The bottles must be kept in a cool place, lying on their side, for three or four weeks before they are ready for use. Instead of the honey mentioned above, twenty-four pounds of sugar may be employed, omitting the skimmed milk as a clarifier.—*Druggists' Circular.*

PUNCH-ESSENCE.—A superior essence is prepared, according

to a correspondent of the *Pharmac. Zeitung*, by the following

White sugar.....	22	pounds.
Lemons.....	12	"
Oranges .....	12	"
Green tea.....	2½	ounces.
Cinnamon .....	½	ounce.
Vanilla .....	½	"
Tartaric acid .....	1	"
Rum .....	1	gallon.
Arrac .....	1	"
Water, boiling.....	1	pint.
Red wine, sufficient.		

Peel the lemons and oranges and digest the peels with the rum for three days. Express the peeled fruits and dissolve the tartaric acid in the juice. Digest the tea, cinnamon and vanilla for fifteen minutes with the boiling water. Filter all the solutions and add them to a thick syrup prepared by boiling the sugar with a sufficient quantity of red wine.—*New Remedies.*

#### FLUID EXTRACT OF CHINESE TEA.—

Best Imperial Tea .....	32	troy oz.
Glycerin.....	8	fl. oz.
Water.....	8	fl. oz.
Alcohol .....	16	fl. oz.
Diluted alcohol.....	q. s.	

To the tea in fine powder add sufficient of the mixture of the liquids to moisten, and pack it in a percolator; pour in the remainder of the menstruum, and let it stand 4 days. Then continue the percolation, using diluted alcohol until 24 fl. oz. have been received. Remove the mass from the percolator, and add to it 1 gallon of boiling water. After macerating 24 hours, express, filter and evaporate to 8 fl. oz., mix with the percolate, and filter.

This fluid extract has been found to exceed either coca or guarana in relieving headache.—*R. F. Fairthorne, in Am. Journ. Pharm.*

**DETECTION OF FUSEL OIL IN ALCOHOL.**—The *Gaz. Chim.* gives the following test:—Mix 5 volumes of alcohol with 6 or 7 of water, and agitate with 15—20 drops of chloroform. The latter leaves behind on evaporation any fusel oil which may be present, and which may be recognised by its odour and by etherification with acetate of potash and sulphuric acid. One-half per cent. can be recognised in this manner.

## Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor not later than the 25th of each month.

### BUSINESS NOTES.

H. E. Neelands, a graduate of the College, who has for some years conducted Dr. Roll's business at Winnipeg, has been admitted a partner.

The stock of W. C. Webb, of Ridgetown, is advertised for sale.

B. Kilborn has given a chattel mortgage. The stock of Drugs belonging to the estate of C. H. Walker, Port Rowan, has been sold to George Stewart.

C. M. Irwin, Drayton, is out of business in that place.

The stock of R. A. Nellis, Ridgetown, is advertised to be sold by auction.

T. G. Whitfield, of Whitby, has sold his business to G. A. Powell, of Chatham, who will continue it as a branch.

J. Callard, late of Kennedy & Callard, London, has commenced business on his own account in that city.

### BUSINESSES FOR SALE.

**DRUG BUSINESS**—Easy terms; stock about \$3,000; doing a good trade; satisfactory reasons for selling; for particulars, apply to Mitchell & Watson, Port Hope.

**A good Business** on a leading street in Toronto. Apply to Elliot & Co.

### ARTICLES WANTED.

**A second-hand, cut glass, silver-plated Show Case**, six feet long; cheap. Address, Box 131, New Hamburg, Ont.

### BUSINESSES WANTED.

**Drug & Stationery Business** wanted in some live town in Ontario; value about \$1,500; must be in good order. Apply to John Ball, Druggist, Hampden, Ont.

### SITUATIONS WANTED.

**ASSISTANT**—Henry A. Hawken, box 40 Watford, one and a-half years' experience.

H. S. Woodward, London, Ont., ten years' experience, wants a situation in a wholesale house.

Ralph Watson, Queensville, wants a place as Apprentice in a retail establishment.

**As Assistant**, or to take charge of Prescription Department; member of O. C. P.; over four years' experience; thoroughly competent; best of references. Address, Druggist, box 58, Milton West.

Charles Wilson, over five years' experience in England, is desirous of hearing of an opening as Assistant. Address, Editor PHARM. JOUR.,

## MARKET REPORT.

Business, though not quite so lively as last month, is good for this season of the year.

*Opium.*—After a short period of activity, and higher prices, the market drooped, but there has been no important change in price. Morphia is also without change.

*Quinine* declined at the beginning of the month, and then advanced rapidly, and, at the close, is rather dull and unsettled. Manufacturers claim that present rates do not pay the cost of production. Sulphate of cinchonidia is scarce, and the price quite firm. Quinine has become to a considerable extent a gambling commodity. Persons having no connection with the drug trade speculate largely, and in most cases these parties lose, in which event no one feels any particular sorrow. The stock of available bark still remains large, but is closely controlled by the Meyer ring,

*Miscellaneous Drugs.*—Considerable lots of castor oil have changed hands, prices continuing low. Mercury and mercurials are very steady. The scarcity of hops has had a very marked effect on the price of chamomiles, columbo, chiretta, quassia, gentian, and other bitters that may be used as substitutes for hops. Russian cantharides are scarce and advancing, and the Chinese sort is quite out of the market. Cod liver oil is a little easier, though supplies are small. Oil of bergamot is rather dearer, and oil of cubebs cheaper, though the berries still maintain their price. The secret is that the distillers sell their waste berries to the makers of cubeb cigarettes. Oils of wintergreen and peppermint are rather easier. Full rates are demanded for gum Arabic and tragacanth, especially the high grades. Seeds are moderately active. Hemp seed declined in the beginning of the month, but is again advancing.

*Spices* still continue firm, black pepper having again advanced.

*Paints and Oils.*—Spirits of turpentine has shown little variation, full rates being maintained throughout the month. Rosins have advanced. Linsseed oil is without quotable change. White lead and colors are in good demand.



Drugs, Medicines, &c.	§ c.	§ c.
Acid, Acetic, fort . . . . . per lb	0 12 @	0 14
Benzoic, pure . . . . .	0 15	0 10
Carbolic, cryst., med . . . . .	1 25	1 50
" com . . . . .	0	0 50
Citric . . . . .	0 80	1 00
Gallic . . . . .	1 60	1 80
Muriatic . . . . .	0 03½	0 06
Nitric . . . . .	0 10½	0 15
Oxalic . . . . .	0 18	0 19
Salicyclic . . . . .	2 25	3 00
Sulphuric . . . . .	0 02½	0 05
Tannic . . . . .	1 10	1 25
Tartaric, pulv . . . . .	0 65	0 75
Ammon, carb. . . . .	0 21	0 24
Bromide . . . . .	0 75	0 90
Iodide . . . . .	4 00	5 00
Liquor, 880 . . . . .	0 20	0 22
Muriate . . . . .	0 14	0 15
Æther, Nitrous . . . . .	0 30	0 45
Sulphuric . . . . .	0 50	0 65
Antim. Nig., pulv . . . . .	0 15	0 17
Tart . . . . .	0 55	0 60
Alcohol, 95 per ct., bbl . . . . . Cash	2 75	3 00
Arrowroot, Jamaica . . . . .	0 14	0 22
Bermuda . . . . .	0 45	0 65
Alum . . . . .	0 02½	0 03½
Balsam, Canada . . . . .	0 45	0 50
Copaiba . . . . .	0 90	1 10
Tolu . . . . .	1 00	1 25
Bark, Bayberry, pulv. . . . .	0 18	0 20
Canella, . . . . .	0 12	0 14
" pulv. . . . .	0 20	0 22
Peruvian, yel. pulv. . . . .	0 25	0 50
" red " . . . . .	1 60	2 40
Prickly Ash . . . . .	0 30	0 40
Slippery Elm, grd. bulk . . . . .	0 18	0 25
" flour, packets . . . . .	0 28	0 32
Sassafras . . . . .	0 12	0 16
Wild Cherry . . . . .	0 10	0 12
Berries, Cubebs, ground . . . . .	1 40	1 50
Juniper . . . . .	0 07	0 10
Beans, Tonquin . . . . .	2 25	3 00
Vanilla . . . . .	10 00	15 00
Bismuth, Trisnit. . . . .	2 50	2 60
Carb. . . . .	2 60	2 70
liquor . . . . .	0 35	0 55
Borax, refined . . . . .	0 18	0 20
Camphor, American . . . . .	0 35	0 37
English . . . . .	0 48	0 50
Cantharides . . . . .	1 50	1 60
Powdered . . . . .	1 60	1 75
Chiretta . . . . .	0 30	0 30
Chloroform, Pure . . . . .	1 15	1 75
" D. & F . . . . .	1 90	2 00
" German . . . . .	0 75	0 90
Chloral hydrate . . . . .	1 35	1 60
Cinchonine, Muriate . . . . .	0 40	0 48
Sulphate . . . . .	0 34	0 42
Cinchonidia, Sulphate . . . . .	1 10	1 20
Cochineal, S. G. . . . .	0 50	0 60
Black . . . . .	0 55	0 60
Collodion . . . . .	0 75	0 90
Cuttle-Fish Bone . . . . .	0 40	0 50
Ergot . . . . .	0 60	0 80
Extract Belladonna . . . . .	3 10	3 00
Colocynth, Co. . . . .	1 25	1 75
Gentian . . . . .	0 50	0 60
Hemlock, Ang . . . . .	1 00	1 05
Henbane, " . . . . .	3 00	3 50
Jalap . . . . .	2 50	5 00
Mandrake . . . . .	1 75	2 00
Nux Vomica . . . . . oz	0 20	0 30
Opium . . . . . oz	0 90	0 00
Rhubarb . . . . . lb	4 00	5 00
Sarsap. Hon. Co. . . . .	1 00	1 20
" Jam. Co. . . . .	4 00	4 50
Taraxacum, Ang . . . . .	0 65	0 80
Flowers, Arnica . . . . .	0 25	0 28
Chamomile . . . . .	0 40	0 50
Fuller's Earth . . . . .	0 03	0 04
Gum, Aloes, Barb . . . . .	0 30	0 70
" Cape . . . . .	0 20	0 25
" powdered . . . . .	0 23	0 25
" Socot. . . . .	0 54	0 75
" pulv . . . . .	0 62	0 80
Arabic. Select . . . . .	0 40	0 45
" powdered . . . . .	0 45	0 55
" sorts . . . . .	0 18	0 20

DRUGS, MEDICINES, &c.—Contd.	\$ c.	\$ c.
Gum Arabic Sorts, powdered .....	0 20	0 30
Assafetida .....	0 20	0 25
Benzoïn .....	0 50	0 80
Catechu .....	0 12	0 15
" powdered .....	0 20	0 25
Gamboge .....	1 00	1 25
Guaiacum .....	0 65	1 00
Myrrh .....	0 45	0 85
Sang Dragon .....	0 65	0 45
Scammony, powdered .....	4 90	5 00
" Virg. ....	12 50	14 00
Shellac, Orange .....	0 35	0 40
Shellac, liver .....	0 33	0 38
Storax .....	0 65	0 50
Tragacanth, flake .....	0 65	1 35
" common .....	0 45	0 65
Galls .....	0 20	0 25
Gelatine, Cox's Ed. ....	1 40	1 25
" French .....	0 50	0 80
Glycerine, common crude .....	0 25	0 28
" 30" .....	0 35	0 38
Prices .....	0 70	0 00
Honey, Canada, best .....	0 20	0 25
Iron, Carb. Precip. ....	0 16	0 20
Citrate Ammon. ....	0 95	1 00
" & Quinine, oz. ....	0 45	1 10
" & Strychine .....	0 18	0 20
Perchloride Solution .....	0 16	0 20
Sulphate, pure .....	0 06	0 10
Iodine, commercial .....	2 25	2 50
Resublimed .....	2 75	3 00
Jalapin .....	0 75	1 50
Kreosote .....	0 75	3 00
Leaves, Buchu .....	0 25	0 30
Belladonna .....	0 30	0 33
Foxglove .....	0 27	0 38
Henbane .....	0 45	0 25
Horehound .....	0 15	0 25
Lobelia .....	0 20	0 25
" pulv. ....	0 40	0 45
Senna, Alex .....	0 23	0 25
" E. I. ....	0 10	0 14
" Tinnevely .....	0 13	0 25
Uva Ursi .....	0 15	0 17
Lime, Chloride .....	0 02½	0 05
Lime, Hypophosphite .....	1 90	2 25
Sulphite .....	0 10	0 11
Lead, Acetate .....	0 13	0 17
" Brown .....	0 09	0 10
Leptandrin .....	0 10	0 75
Lye, Concentrated .....	0 95	1 25
Liquorice, Solazzi .....	0 50	0 55
Martucci .....	0 35	0 37
Other brands .....	0 14	0 35
Magnesia, Carb. ....	0 20	0 25
" 1 oz. ....	0 18	0 22
Calcined .....	0 60	0 70
Citrate .....	0 40	0 75
Mercury .....	0 10	0 65
Ammoniated .....	1 25	1 30
Bichlor .....	0 80	0 90
Biniodide .....	3 60	4 10
Chloride .....	0 90	1 00
C. Chalk .....	0 40	0 70
Nit. Oxyd .....	1 10	1 30
Morphia Acet .....	2 75	2 95
Mur. ....	2 75	2 90
Sulph. ....	2 75	2 90
Musk, pure grain .....	34 00	.....
Canton .....	0 60	0 70
Moss, Irish .....	0 12	0 15
Oil, Almonds, sweet .....	0 60	0 65
" bitter .....	12 00	13 00
Anised .....	3 75	4 00
Bergamot, super .....	3 60	4 00
Caraway .....	3 20	3 50
Cassia .....	1 50	2 00
Castor, E. I. ....	0 10	0 12
Cedar .....	0 50	0 70
Citronella .....	1 25	1 50
Cloves, Ang. ....	2 50	3 00
Cod Liver, Nor., Imp. Gal .....	3 50	3 75
" N. F. ....	2 25	2 50
Oroton .....	1 85	2 00
Hemlock .....	0 45	0 90
Juniper Wood .....	0 65	0 60
Berries .....	0 00	2 00
Lavand, Ang. ....	4 50	5 00

DRUGS, MEDICINES, &c.—Cont'd.			DYE-STUFFS—Continued.		
Oil, Lavand, Exotic.....lb.	1 40	3 50	Argols, ground.....	0 15	0 33
Lemon.....	3 50	4 00	Blue Vitriol, pure.....	0 06½	0 08
Orange.....	2 40	2 60	Camwood.....	0 05½	0 08
Neroli, super.....oz.	3 50	5 50	Copperas, Green.....	0 01½	0 02
Origanum.....lb.	0 65	0 85	Cudbear.....	0 15	0 30
Peppermint Ang.....	13 00	15 00	Fustic, Cuban.....	0 02½	0 03
" Amer.....	4 00	5 00	Indigo.....	0 75	1 00
Rose, Virgin.....oz.	13 00	14 00	Japanica.....	0 85	0 36
" good.....	7 00	8 00	Lacdye, powdered.....	0 08	0 10
Santal Ang.....lb.	9 00	9 75	Logwood, Camp.....	0 33	0 38
Sassafras.....	1 00	1 20	Extract.....	0 02½	0 03
Verbena.....	1 75	2 00	" 1 lb. box.....	0 9	0 12
Wintergreen.....	4 00	4 50	" ½ lb. ".....	0 13½	—
Wormwood, pure.....	9 50	0 00	Madder, beat Dutch.....	0 14	—
Ointment, blue.....	0 50	0 55	Quercitron.....	0 03	0 05
Opium, Turkey.....	5 00	5 25	Sumac.....	0 06	0 07
" pulv.....	7 70	9 00	Tin, Muriate.....	0 10½	0 15½
Orange Peel, opt.....lb.	0 35	0 40	Redwood.....	0 03½	0 04
" good.....	0 16	0 25	SPICES.		
Pill, Blue, Mass.....	0 55	0 75	Allspice.....	0 20	0 25
Potas., Bi-chrom.....	0 14	0 16	Cassia.....	0 20	0 25
Bi-tart.....	0 35	0 40	Cloves.....	0 40	0 50
Bromide.....	0 48	0 55	Cayenne.....	0 33	0 37
Cyanide.....	0 52	0 55	Ginger, E. I.....	0 12	0 14
Carbonate.....	0 13	0 15	Jam.....	0 27	0 30
Chlorate.....	0 22	0 25	Mace.....	0 85	1 00
Iodide.....	2 00	2 25	Mustard, com.....	0 20	0 25
Nitrate.....	8 75	11 00	Nutmegs.....	0 95	1 00
Sulphuret.....	0 25	0 35	Pepper, Black.....	0 18	0 20
Pepsin, Boudault's.....oz.	1 20	1 20	White.....	0 30	0 32
Morson's.....oz.	0 90	1 00	PAINTS, DRY.		
Phosphorus.....	0 90	1 05	Black, Lamp, com.....	0 08	0 10
Podophyllin.....	0 45	0 50	" refined.....	0 18	0 25
Quinine, Howard's.....	2 50	2 75	Blue, Celestial.....	0 09	0 12
" German.....	1 95	2 05	Prussian.....	0 05	0 75
Root, Colombo.....lb.	0 35	0 45	Brown, Vandyke.....	0 05	0 06
Curcuma, grd.....	0 11	0 15	Chalk, White.....	0 01	0 01½
Elecampane.....	0 16	0 17	Green, Brunswick.....	0 07	0 10
Gentian.....	0 10	0 30	Chrome.....	0 16	0 25
" pulv.....	0 12	0 20	Paris.....	0 22	0 24
Hellebore, pulv.....	0 15	0 18	Magnesia.....	0 15	0 20
Ipecac.....	1 75	0 00	Litharge.....	0 07	0 08
Jalap, Vera Cruz.....	0 38	0 45	Red Lead.....	0 05½	0 07
Liquorice, select.....	0 13	0 15	Venetian.....	0 02½	0 03
" powdered.....	0 13	0 15	Sienna, B. & G.....	0 07	0 08
Mandrake.....	0 12	0 20	Umber.....	0 07	0 10
Orris.....	0 18	0 25	Vermillion, English.....	0 90	1 00
Rhubarb, Turkey.....	2 25	2 40	American.....	0 20	0 22
" E. I.....	0 85	0 95	Whiting.....	0 85	1 00
" pulv.....	1 00	1 20	White Lead, dry, gen.....lb.	0 06½	7 00
Sarsap., Hond.....	0 50	0 65	" No. 1.....	0 05½	6 00
" Jam.....	0 60	0 00	Yellow Chrome.....	0 09	0 15
Squills.....	0 16	0 20	" Ochre.....	0 02	0 03
Senega.....	0 95	1 00	Zinc White, Star.....	0 06½	0 11
Spigelia.....	0 55	0 60	COLORS, IN OIL.		
Sal., Epsom.....	0 02	0 02½	Blue Paint.....	0 12	0 15
Rochelle.....	0 35	0 38	Fire Proof Paint.....	0 06	0 08
Soda.....	1 25	1 50	Green, Paris.....	0 30	0 35
Seed, Anise.....	0 12	0 15	Red, Venetian.....	0 07	0 10
Canary.....	5 00	6 00	Patent Dryers, 1 lb tins.....	0 10	0 12
Cardamon.....	2 40	2 75	Putty.....	0 03	0 12
Fenugreek, g'd.....	0 08	0 09	Yellow Ochre.....	0 08	0 12
Flax, Ont. Cash 100 lbs.....	3 25	0 00	White Lead, gen. 25 lb. tins..	1 80	2 00
" Imported.....	3 00	3 25	" No. 1.....	1 60	1 75
Hemp.....	0 05	0 06½	" No. 2.....	1 40	1 50
Mustard, white.....	0 10	0 15	" No. 3.....	1 20	1 35
Saffron, American.....	0 60	0 75	White Zinc, Snow.....	2 25	2 35
" Spanish.....	18 00	0 00	NAVAL STORES.		
Santonine.....	6 00	8 00	Black Pitch.....	3 50	4 00
Sago.....	0 08	0 09	Rosin, Strained.....lb.	4 00	4 00
Silver, Nitrate.....Cash	13 20	14 00	Clear, pale.....	5 50	6 50
Soap, Castile, mottled.....	0 10½	0 11½	Spirits Turpentine Imp.Gall....	0 95	1 00
Soda, Ash.....	0 02½	0 05	Tar Wood.....	4 80	5 00
Bicarb. Newcastle..Keg	3 25	3 60	OILS.		
" Howard's.....lb.	0 16	0 16	Cod Imp. Gall.....	0 75	0 80
Caustic.....	2 50	5 00	Lard, extra.....	1 10	1 20
Spirits Ammon., arom.....	0 40	0 45	" No. 1.....	1 05	1 10
Strychnine, Crystals.....oz.	1 75	2 00	Linseed, raw per gals.....	0 72	0 75
Sulphur. Precip.....lb.	0 15	0 16	" Boiled.....	0 76	0 80
Sublimed.....	0 03½	0 03½	Neats-foot.....	1 20	1 20
Roll.....	0 02½	0 03½	Olive, Common, Imp. Gall.....	1 05	1 45
Verdigris.....	0 50	0 55	Salad.....	2 15	2 20
Wax, White, pure.....	0 65	0 75	" Pints, cases.....	4 00	4 20
Zinc, Chloride.....oz.	0 10	0 15	" Quarts.....	3 25	3 50
Sulphate, pure.....lb.	0 09	0 12	Seal Oil, Pale, Imp. Gal.....	0 95	0 95
" common.....	0 06	0 10	Union Salad.....	1 20	1 20
DYE-STUFFS.			Sperm, genuine.....	2 40	2 50
Annatto.....	0 35	0 60			
Aniline, Magenta, cryst.....	2 15	2 50			

# CANADIAN PHARMACEUTICAL JOURNAL

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## Original and Selected Papers.

### SOME RESULTS OF THE ACTION OF THE DIGESTIVE FERMENTS UPON DRUGS.\*

BY GEORGE BROWNEN, F.C.S.

I propose in this paper to call the attention of the conference to some of the results of the action of solution of the digestive ferments upon medicinal substances.

Preparations containing the gastric and pancreatic ferments have recently become famous as dietetic auxiliaries; I need not therefore, occupy time with references to peptonized foods or drinks, or even give a detailed account of their discovery and development.

In 1836 Schwan applied the term *pepsin* to an albumen-dissolving product obtained from the gastric juice, and subsequent investigations seem to show that the gastric juice contains more than one distinct ferment, or that this ferment may be modified by the process of extraction so as to assume new or lose some of its original properties.

This is also true of the ferment or ferments of the pancreas. Bouchardat, in 1845, and Claude Bernard, a few years later, discovered or described some of the properties of the pancreatic secretion. In 1862 Danilewsky asserted the existence of three special ferments in the pancreatic juice, and since that time Von Wittich, Kuhne, and others have extracted and examined the ferments and applied them to dietetic purposes.

But there is a field of research outside the range of the peptonized foods which merits the attention of the pharmacist and the

\*Read before the British Pharmaceutical Conference

physiologist. It is this: What are the possible modifications which drugs may undergo in contact with the digestive secretions, and will an examination of such results be of service in the preparation, combination, or preservation of crude material so as to secure the best physiological results?

Solutions of the gastric ferment were obtained from the stomach of the pig by means of dilute glycerine, and also with acidulated water and alcohol. Pancreatic solutions were also obtained from the pancreas of the pig by means of glycerine and a feeble alkaline, as well as an acidulate dilute alcohol. The first series of experiments were made with these solutions and crude drugs; the second with the definite principles.

An infusion of rhubarb,  $\frac{1}{2}$  ounce to the pint of water, was prepared, and as soon as the infusion had cooled to 50° C. some of the acid solution of pepsin was added and the temperature maintained by means of the incubator for two hours; 47 per cent. of the rhubarb was thus rendered soluble. The mixture was then neutralized by sodium carbonate, the alkaline solution of pancreatin added, and the temperature sustained for two hours longer. The insoluble portion was then found to consist of cellulose and earthy salts, retaining a small quantity of coloring matter. The 240 grains of rhubarb left an insoluble residue of 96 grains.

Infusion of calumba, prepared with boiling water, and passed through the same processes of digestion, gave somewhat similar results. The spongy cellulose was associated with a trace of berberia; 500 grains of calumba left an insoluble residue of 172 grains.

Cinchona and opium, upon the other hand, behaved somewhat differently; the gummy and extractive matters were dissolved and retained in solution, but a considerable portion of the alkaloids was left in the insoluble marc. Cinchona was about half soluble (48 per cent.), and opium about two thirds, or 68 per cent. Quinine and morphia could be detected in the respective solutions, and were also readily found and extracted from the insoluble residues. The cinchona tannin was destroyed in the digestive process and failed to precipitate gelatine, but this peculiarity will be noticed when we come to the action upon definite substances.

The possibility of the digestive ferments attacking gum acacia was deemed of some importance, in consequence of gum being used in a test demonstrating the acidification of fat by the emulsive ferment of the pancreas. Strong solutions of white gum-arabic were therefore prepared and submitted in the incubator to the action of the gastric and pancreatic solutions. The feebly acid solution containing the gastric ferment remained clear even after several hours' digestion. A slight change, however, had occurred in the mixture, as a portion removed, neutralized with soda and boiled with Fehling's sugar test, showed a slight reduction to cuprous oxide, whereas a portion of the original solution

undigested, but kept at the same temperature and under similar conditions, was not affected by the glucose test.

The mucilage digested with the alkaline pancreatin solution soon became cloudy, and ultimately a white precipitate was formed. The precipitate was found to consist of calcium carbonate, with a considerable quantity of the diastatic ferment carried down by the precipitated chalk. This precipitate, carefully washed, was found to possess strong amylolytic but no proteolytic or emulsificative power.

I should, therefore, think that the arabin of gum-acacia remained unaffected by the processes, and that the peptonizing change was wrought upon some slight impurity of gum, possibly containing nitrogen; this point, however, is reserved for further investigation.

Closely allied in physical character to gum, and holding intermediate place between foods and medicines, are the mucilages obtained from Irish and Iceland moss. On Irish moss the alkaline extract of the pancreas seemed to exert very little action. The proteolytic ferment of the pancreas extracted with acids soon destroyed the viscosity of the mucilage, and divided the jelly into soluble and insoluble portions. These results were also obtained by the digestion of chondrus jelly with solution of pepsin; the products resembled and perhaps were identical with parapectin and pectic acid.

Cetraria, or Iceland moss, behaved somewhat differently. A jelly of this substance retained its color, but became flocculent when acted upon by the gastric ferment. On the other hand, the pancreatized jelly retained more of its viscosity, became deeper-colored, and gave a deposit of yellowish-white flakes. These flakes under the microscope were found to consist of noncrystalline masses (pectic acid?).

The digestives were found to produce or accelerate the pectic fermentation by some experiments upon the pectin of the turnip.

I must now leave the consideration of this part of my subject and call your attention to the action of ferments upon more definite substances. The acidulated extract of the gastric juice decomposed a watery solution of salicin very slowly and imperfectly; saliretin was formed, but it was associated with undecomposed salicin. On the other hand, the pancreatic ferment split up the alicin into saligenin and glucose, and the saligenin separated by solution in ether and subsequent crystallization was obtained in the form of white laminæ or scales.

A well-washed sample of jalapin remained intact after digestion with the pepsin solution, but pancreatic digestion withdrew a copper-reducing substance from the jalapin.

Santonin was unaffected by gastric and pancreatic solutions.

A solution of tannin treated with the acid pepsin solution be-

came turbid, but the turbidity disappeared when a little more hydrochloric acid was added to the mixture. The results of several hours' digestion were, however, negative, but the pancreatic ferment, upon the other hand, rendered the tannic acid incapable of precipitating gelatine or isinglass, because of the transformation into gallic acid.

These are a few of the results obtained by digesting drugs with extracts from the digestive organs; they throw open a wide field for the pharmacist, and one deeply interesting to the physiologist.

The digestive process seems to consist of the hydration or splitting up of insolubles, and, as far as my observation has gone, the microzymous or bacteroidal fermentation need not occur until the primary digestion is in an advanced stage. For instance, in the digestion of the proteids, albumen and fibrin, I have noticed occasionally a point when the solution or hydration of these substances by the acidulated pancreatic secretion passes into the formation of leucin and tyrosin. I refer to acidulated pancreatic solution, as the researches of Dr. Roberts and others upon the amylolytic power of a neutral or feebly alkaline pancreatic extract have seemed to throw into the shade the proteolytic power of acidified pancreatic juice, which, although incapable of transforming starch paste into sugar and dextrine, yet still possesses the power of dissolving fibrin or albumen, and ultimately splitting them up into leucin, tyrosin, and an organic acid. This is not the result of the putrid fermentation of albuminous bodies, as in this latter case the formation of ammonia renders the reaction alkaline instead of acidulous.

The emulsive ferment as well as the proteolytic inaction produces acidity, although in the emulsification of fat the acidity is generally very slight and insufficient by itself to account for the minute subdivision of large portions of fat. In the digestion of proteids the acidulous body is glutamic acid, and I think it may also occur in the emulsification of fats, as I have often sought for fatty acid and glycerine as separate bodies in emulsified fats; but I have always failed in my attempts to obtain any proportionate quantity which would justify me in ascribing emulsification of fat to their formation and presence.

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#### COTTON SEED OIL.—SOME OF ITS USES IN PHARMACY, AND ITS DETECTION WHEN MIXED WITH OLIVE OIL.\*

BY S. S. BRADFORD, PH. G.

Having had occasion during the last six years to manufacture lead plaster in considerable quantities, it occurred to me that cotton seed oil might be used instead of olive oil, at less expense, and

\* Amer. Jour. Pharm.

with as good results. The making of this plaster with cotton seed oil has been questioned, as according to some authorities the product is not of good consistence and is apt to be soft, sticky, and dark colored, but in my experience such is not the case. If the U.S.P. process is followed in making this plaster, substituting for the olive oil cotton seed oil, and instead of one-half pint of boiling water, one and one-half pint are added, the product obtained will be equally as good as that from olive oil. My results with this oil in making lead plaster led me to try it in making the different liniments of the Pharmacopœia, with the following results.

*Linimentum Ammoniac.*—This liniment, made with cotton seed oil, is of much better consistency than when made with olive oil. It is not so thick, will pour easily out of the bottle, and if the ammonia used is of proper strength will make a perfect liniment.

*Linimentum Calcis.*—Cotton seed oil is not at all adapted to making this liniment. It does not readily saponify, separates quickly, and it is almost impossible to unite when separated.

*Linimentum Camphoræ.*—Cotton seed oil is far superior to olive oil in making this liniment, it being a much better solvent of camphor. It has not that disagreeable odor so commonly found in the liniment.

*Linimentum Chloroformi.*—Cotton seed oil being very soluble in chloroform, the liniment made with it leaves nothing to be desired.

*Linimentum Plumbi Subacetatis.*—When liq. plumbi subacet. is mixed with cotton seed oil and allowed to stand for some time the oil assumes a reddish color similar to that of freshly-made tincture of myrrh. When the liquor is mixed with olive oil, if the oil be pure no such changes takes place. Noticing this change, it occurred to me that this would be a simple and easy way to detect cotton seed oil when mixed with olive oil. This change usually takes place after standing from twelve to twenty-four hours. It is easily detected in mixtures containing five per cent, or even less of the oil, and I am convinced, after making numerous experiments with different oils, that it is peculiar to cotton seed oil.

Charlestown, Mass., September, 1882.

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ORANGE WINE.—The oranges must be perfectly ripe. Peel them and cut them in halves, crosswise of the cells; squeeze into a tub. The press used must be so close that the seeds cannot pass into the mast. Add two pounds of white sugar to each gallon of sour orange juice, or one pound to each gallon of sweet orange juice; and one quart water to each gallon of the mixed sugar and juice. Close fermentation is necessary. The resultant wine is amber-colored, and tastes like dry hock, with the orange aroma. Vinegar can be made with the refuse, and extract from the peels.

## PREPARATION OF SOFT SOAP.

According to Ringel ("Seifenfabrikant," 1881, 82), pure soft soap consists mainly of potassium oleate, potassium carbonate, and the salts contained in the potash used for its preparation. Pure potassium oleate obtained from soft soap by treatment with potassium chloride is a firm, tough, slightly translucent mass. Soft soap does not acquire its translucent appearance and ductile character until after the addition of a solution of caustic and carbonated alkali. Instead of finishing soaps with potash, potassium chloride, sulphate, borate, silicate, etc., may be used: sodium salts, however, produce soaps of less perfection. These salts have the property of causing the soap to combine with water; 100 parts of water require 12 to 15 parts of these salts to effect this combination, so that no watery particles separate on cooling.

For the preparation of green soft soap Starke ("Seifenfabrikant," 1881, 83) uses hempseed oil, linseed oil, and olein. The fat is introduced into the copper, mixed with an equal weight of ley of  $18^{\circ}$  to  $20^{\circ}$ B. ( $\frac{3}{4}$  potash-ley and  $\frac{1}{4}$  soda), agitated repeatedly, allowed to settle until the next day, and then heated to boiling. Combination soon takes place, and may be recognized by the absence of oil, which at the commencement floated on the surface of the ley, and by the fact that a sample placed on the tongue no longer tastes of alkali, but has a sweetish taste resembling oil. The mixture is now subjected to gentle boiling, and treated gradually with ley of  $20$  to  $24^{\circ}$ B. until a transparent emulsion is produced. At this period the fire is increased and the boiling continued until the soap shows large lamellæ on the sides of the copper, and only very little froth is produced. The soap when finished should remain clear on cooling.

According to Eichbaum ("Seifenfabrikant," 1881, 85), one of the best soft soaps is the so-called "natural grain-soap," which is made from potash ley (containing not more than 5 per cent. of soda) and German linseed oil. Saponified olein and twice purified cottonseed oil is used in some cases.

Seidemann ("Seifenfabrikant," 1881, 153) describes the preparation of transparent glycerol soft soap. The oils used for the manufacture of this soap must be bleached. In other respects the preparation resembles that of other soft soaps. The bleaching is effected in the following manner: The oil is heated with direct steam and mixed with 5 to 8 per cent. of potash-ley of  $28^{\circ}$ B. It is agitated thoroughly then allowed to remain quiescent. The precipitate which subsides is used for the manufacture of darker-colored soaps.

In order to prevent the freezing of transparent soap it is recom-



mended to use linseed oil in its preparation. For washing woolen goods, Menzies ("Seifenfabrikant," 1881, 169) recommends the use of neutral potash soap, which is said to supersede soda soaps.—*Four. Chem. Soc.*, Aug., 1882; from *Dingl. polyt. J.*, vol. 244.

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## THE ALCOHOLIC STRENGTH OF THE FLUID EXTRACTS OF COMMERCE.\*

BY ADAM CONRATH.

In order to solve this query in the most satisfactory way, and with the least trouble, I selected the fluid extracts from four manufacturers most used in this locality.

The preparations from twelve drugs, in which the different formulas of the Pharmacopœia are represented, were taken from each manufacturer.

Then, for comparison, I made the same preparations strictly according to the Pharmacopœia, taking, however, no more than ordinary precaution in the selection of the drugs and the prevention of evaporation.

The drugs were not subjected to drying, but were used as found on the shelf. The temperature of the room in which the preparations were made varied between 60° and 70° F.; all these experiments were made during February, 1882.

The mode of estimating the percentage of alcohol was as follows:

25 cc. of the fluid extract were placed in a 4 ounce flask, the pipette rinsed with 25 cc. of water, and this added to the extract. Distillation was then proceeded with until from 35 to 45 cc., according to the nature of the extract had distilled over. The distillate was diluted with distilled water to measure 50 cc. and the spec. gr. of this taken at 60° F. The alcohol per cent. was therefrom deduced according to Stampfer's table in Hager's Ph. Phaxis. The percentage thus found multiplied by two was placed down as the amount in 25 cc. of the extract. The preparations of No. 1 were taken from open packages on the shelf. Those of No. 2, No. 3, and No. 4 were taken from unbroken packages kindly placed at the disposal of the writer by a wholesale firm of this city.

In addition to the estimation of the alcohol, the specific gravity of each extract was also taken.

\* Read at the Meeting of the Amer. Pharm. Assoc. and published in *New Remedies*.

	No. 1			No. 2			No. 3			No. 4			PHARMACOPOEIA		
	Sp. Gr. of Extract.	Sp. Gr. of Distill.	% of Abs. Alc. X 2.	Sp. Gr. of Extract.	Sp. Gr. of Distill.	% of Abs. Alc. X 2.	Sp. Gr. of Extract.	Sp. Gr. of Distill.	% of Abs. Alc. X 2.	Sp. Gr. of Extract.	Sp. Gr. of Distill.	% of Abs. Alc. X 2.	Sp. Gr. of Extract.	Sp. Gr. of Distill.	% of Abs. Alc. X 2.
Ext. Belladonnæ Rad. fl.	1.035	.9720	48	0.958	.9680	56	1.000	.9697	52	1.002	.9714	50	1.064	.9745	43
" Digitalis	0.936	.9607	64	1.001	.9776	37	1.054	.9762	40	0.988	.9659	60	0.893	.9532	79
" Buchu	0.893	.9524	80	0.862	.9474	86	0.965	.9681	56	0.937	.9597	70			
" Gelsemii	1.009	.9814	31	0.953	.9695	48	0.902	.9595	70	0.944	.9628	65			
" Cinchonæ	1.062	.9705	50	0.981	.9757	41	1.007	.9757	41	1.022	.9781	36	1.094	.9814	30
" Senegæ	1.014	.9723	48	0.999	.9742	44	1.011	.9747	42	0.995	.9671	56	1.119	.9813	30
" Ergotæ	1.024	.9769	38	1.009	.9798	33	0.973	.9739	44	1.026	.9728	44	1.054	.9785	36
" Ipecacuanhæ	0.978	.9728	46	0.988	.9804	32	1.006	.9769	38	0.997	.9739	46	1.141		
" Pruni Virg.	1.129	.9880	18	0.932	.9614	67	0.999	.9739	44	1.090	.9950	07	1.092	.9893	16
" Rhei	1.100	.9728	46	1.005	.9696	53	0.996	.9694	53	1.026	.9700	52	1.074	.9700	52
" Sennæ	1.052	.9785	36	1.009	.7945	44	0.994	.9659	60	1.044	.9768	38	1.177	.9913	12
" Valerianæ	0.868	.9445	89	0.868	.9481	85	1.017	.9739	63	0.918	.9563	65	0.860	.9470	86

## EXTRACTS OF MALT.\*

BY A. B. PRESCOTT.

For a physiological valuation of the extracts of malt of the present day, we must inquire (1) what is the comparative value of malted grain, and (2) to what extent are the constituents of malted grain obtained and preserved in the manufactured extracts? We have to ask, not only of digestible food substance, their quality and quantity, but of agents to carry on digestion, their presence and power.

Malt as a whole has never been generally adopted as a food. It has been proposed as an addition to grain for feeding of animals, and Mr. Lawes, a life long worker in the chemistry of the cereals, instituted a series of experiments, finding that by feeding a given quantity of unmalted grain, more increase of weight of animals would result than could be obtained by feeding the equivalent but smaller quantity of malt. Ground barley malt has been used by man as a special food, in scurvy, and in some forms of indigestion, and it has been introduced into some of the proprietary farinaceous foods for children and invalids. When used by physicians, however, a hot infusion or a decoction has more often been directed, so that only the soluble part of the malt has been taken. And now, for ten to fifteen years past, numerous extracts of the soluble portion of malt have been extensively made and carried into use over the world.

In malting, grain only loses about one-tenth of its weight, beside a loss of water in the final drying. With a limited extent of oxidation, which causes this small loss of solids, there occurs an extensive saccharous transformation of the starch, and no small modification of the albuminoids. Lawes reported as follows:

	IN BARLEY.	IN MALT.
Sugar.....	2.56	11.01
Starch, Dextrine and Fat...	80.42	72.03
Albuminoids.....	9.83	9.95
Fiber (celulose) .....	4.69	4.84
Ash .....	2.50	2.17
<hr/>		<hr/>
Water .....	17.64	6.66

Of both sugar and dextrine there is in the malting an average increase of over twenty per cent., with a nearly equivalent diminution of the starch. The albuminoids are diminished a little in absolute quantity, and changed very much in character. O. Sullivan states that malt yields at the most only about thirty per cent. to cold water. It is commonly stated that it should yield, by hot

\*From the Physician & Surgeon.

digestion, about two-thirds its weight. Hager says that one hundred parts of malt should give seventy to eighty parts of syrup extract, which would contain from fifty-two to sixty parts of solids. In May and June, 1880, an analysis of four of the extracts of malt in use was made,\* under my observation, with the following percentages of the two chief non-nitrogenous constituents, and the ash:

	NUMBER 1.	NUMBER 2.	NUMBER 3.	NUMBER 4.
Malt sugar.....	46.53	30.49	16.87	38.47
Dextrine.....	11.49	4.67	4.81	10.87
Ash.....	1.67	1.34	1.89	1.68

Number 3 was a fluid preparation, the other three were syrupy. Dunstan and Dimmock, in analysis of extracts of malt current in England in 1879, found (as extreme limits among five samples) from forty-one to fifty-three per cent. of maltose, from five to nine per cent. of dextrine, from four to six per cent. of ash, and from twenty to thirty-two per cent. of water.

This sugar, formed from starch at the seat of germination, was for a long time accepted as identical with the sugar from starch by boiling with mineral acids, but the research of O. Sullivan in 1872, established decided differences. Maltose (malt sugar) is more nearly allied to cane sugar than it is to glucose. Beside distinct optical powers, maltose possesses only sixty-five per cent. as much deoxidizing power with Fehling's solution as glucose. Starch is converted not wholly into sugar, but into variable proportions of malt sugar and dextrine being mostly and under ordinary conditions wholly a final product of the saccharous fermentation, though capable of being changed into glucose.

Now it remains to be established whether or not there are any important differences, in the point of physiological adaptation as foods between (1) the sugar of our own starch-digestion, (2) the sugar of malt, and (3) the sugar of starch conversion by mineral acids. From the analogy between the action of the pancreatic ferments and the diastase ferments, we must look with favor upon the product of the latter as an article of food, and therefore choose food-sugar from malt extract, rather than from the glucose factory, aside from the serious question of contamination at the last named source. As for dextrine, and the soluble forms of starch found with it in malt, the presumption is certainly in favor of their being easily digested, and more gradually and equably absorbed than ordinary dietetic sugars. The mineral portion of the malt, so far as soluble in water, chiefly potassium phosphate and chloride, is of undoubted service to the system, and an element of value in malt extracts.

Albuminoid material constitute an average of nearly ten per cent. of malted barley. In the best syrup extracts of malt of the

\*By R. S. McCulloch, Ph. C.

market, Dunstan and Dimmock found as much as five per cent. (4.0 to 6.1 per cent., five specimens) of albuminoids. Taking these figures, it appears that thirty-two to forty per cent. of the albuminoids in malt dissolve in water to such a permanently soluble form as to be obtained in the extract. At all events, it is a part of the alteration which gluten and other nitrogenous matters of grain undergo in malting, that they become in greater part soluble in water. Now we have in common life two hints toward the effect of malting upon the food value of albuminoids. The sprouted grain of a bad harvest is in effect imperfectly malted, its gluten suffers in vesiculating power, and it suffers in value. Again the panary fermentation of bread making begins with a saccharous change of the starch, nearly the same as that of germination, and bread is vesiculated by this means without general objection. Really we have no reason to doubt that soluble albuminoids of malt possess a good degree of dietetic value, though full assurance in the matter can only come from sufficient physiological tests.

So far we have only considered the constituents of malt extract as materials for digestion. As such they merit favorable esteem. Malt syrup, well made, has decided dietetic advantages over cane sugar syrups, as well as over a pure syrup of starch sugar (when it shall be obtained.) Malt syrup furnishes a superior variety of sugar, with the wholesome addition of dextrine, and with smaller but still important portions of albuminoid material, and of potassium phosphate—all in a product little liable to contamination. To be sure this can never be a cheap syrup, but if its manufacture were undertaken with the object of making a food for general use, adopting efficient methods to dissolve quickly and concentrate rapidly the soluble food parts of malt, without regard to the preservation of diastase, the article could be furnished at rates within the means of the body of the people.

But malt extract is more prominently before the medical world as containing an agent itself capable of digesting starch. In the condition of health, the ingestion of a digestive agent can hardly be desired. It is doubtless better for the glands to be under demand to furnish the due quota of the digestive agents—as it is better that we shall take food requiring digestion, and use more starch than sugar. The substance usually termed diastase has not been separated in the pure state. In a crude form it is obtained by fractional precipitation with alcohol. Dubrunfaut found that it was decomposed and its potency diminished by the alcohol, and applied the name maltin to the unchanged ferment, from which diastase was formed by alcohol. But the essential facts seem to be these, that at the very inception of the germinating process of seeds in general portions of albuminoid substance undergo changes whereby they act as ferments and cause the saccharization of the starch in contact with them. Now to what ex-

tent can we and do we obtain an active agent of starch digestion in extracts of malt?

Analysis for quantity of diastase by its precipitation is worse than useless, it is fallacious. Like other ferments, diastase can be estimated only by its effects. As detailed by Messrs. Dunstan and Dimmock,\* the solution supposed to contain diastase is added in given quantity, to weighed portions of starch, previously gelatinized, digestion is carried on for about three hours, at animal temperature, and each portion then tested for unconverted starch, by adding iodine solution. Working by this method, Mr. McCulloch found the following values of diastase, in the four extracts of malt before mentioned.

Of number 1, 0.8 were required to convert 1.0 gram of starch.

Number 2, 3.0 were required to convert 1.0 gram of starch.

Number 3 had no starch converting power.

Of number 4, 23.0 grams were taken to change 1.0 gram of starch.

Dunstan and Dimmock found only three out of fourteen samples of extract of malt to have any effect on starch, and of these three, there were required 17, 29 and 34 grams, respectively, to change one gram of starch.

It is currently stated that in a temperature above about 68° centigrade (155° Fahrenheit), diastase in solution is rendered inert. To ascertain more definitely what various conditions cause this result, a series of experiments were instituted† in the laboratory in which the writer is engaged. Aqueous solution of malt were made and concentrated under numerous conditions and the products were estimated for starch converting power. The results affirmed that barley malt loses its power of saccharizing starch as follows: (1.) By continued heat in solution, above 65° centigrade (149° Fahrenheit), and by continued heat of the dry malt if much above this temperature. (2.) By alcoholic fermentation even if very slight in extent. (3.) By action of free mineral acids.

Extract of malt is officinal in the German pharmacopœia, and will be under the next revision of the pharmacopœia of the United States. The process of the former authority is defective in that it provides boiling to clarify. Whatever albuminous matter will not separate at 65° centigrade (149 Fahrenheit), may be retained without injury. Hager, in his "*Pharmaceutisch Praxis*," directs to macerate one thousand grams ground malt with an equal weight of cold water, at 10° to 15° centigrade (50° to 59° Fahrenheit), for six or eight hours. Then add four liters (four thousand grams) of water of 30° centigrade (86° Fahrenheit) and digest at 60° to 70° centigrade (140° to 158° Fahrenheit) for one hour.

\*Pharmaceutical Journal, Transactions, London, 1879, [III] IX, 733.

†By C. W. Parsons, Ph. C.

Filter, add the whites of two eggs, boil, strain, and concentrate quickly, in a vacuum apparatus, or by stirring on a water bath. In this process the boiling is very objectionable. It is better that the maceration should be mostly at a temperature either above or below that of fermentation. The temperature of about  $54^{\circ}$  centigrade ( $129^{\circ}$  Fahrenheit) is favorable for the latter maceration, and for the concentration. Clarification, if desired with use of egg white, can be done at  $65^{\circ}$  centigrade ( $149^{\circ}$  Fahrenheit.) In evaporation, a vacuum apparatus should be employed (at  $54^{\circ}$  centigrade,) but it can be done in an open dish by means of constant stirring. There is little action of the diastase upon the unchanged starch, in maceration, as raw starch is not saccharized by diastase. Among other special preparations of malt, there is an extract made dry by addition of sugar of milk. The malts of various grains may be employed when the object is to obtain a food. For the fullest proportion of diastase, as a digestive agent, the malt of barley is preferable.

As a test of value and purity, take one part dry starch, gelatinize it, cool and add fifty to one hundred parts of the extract, and digest at a little above animal temperature for two or three hours, when the addition of a drop or two of compound solution of iodine should give no blue color. If the test can be extended to furnish a full estimation of digestive power, so much the better, but it is well to find the mere presence of diastase, as an evidence that fermentation has been avoided, and the food constituents are uninjured.

Extracts of malt should respond to tests for the dextrine and soluble albuminoids of malt. These responses will be faint in proportion to adulteration with glucose or other syrups. Alcohol should cause a decided turbidity, resolving into a flocculent precipitate. If ten cubic centimetres (two and one-half fluid drachms) be treated, in a test-tube, five-eighths inch wide, with an equal volume of a cold saturated aqueous solution of picric acid, a decided turbidity should appear, becoming in ten minutes quite opaque. Diluted malt extract should give precipitates with most of the general reagents for alkaloids, including tannic acid.

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## TO DETECT BACILLUS TUBERCULOSIS, FOR DIAGNOSIS.

The following from the *Philadelphia Med. & Surgical Reporter* may prove useful to our readers:—

Dr. Heneage Gibbes recommends, in the *Lancet*, the following process, which will bring out the bacillus with ease and certainty, and in his hands has never failed. The colors used are magenta

crystals and chrysoidin ; the latter is a brown which does not stain the ground substance so intensely as vesuvin. They can be procured from the Badesche Anilin Fabrik, 22 Bush-lane, Cannon-street, E.C. The following are the formulæ he has used : Two grams of magenta crystals, three grams of pure anilin, twenty cubic centimeters of alcohol, specific gravity, 830, twenty cubic centimeters of distilled water. Dissolve the anilin in the spirit and then rub up the color with it, in a glass mortar, adding the spirit gradually until it is all dissolved ; then add the water slowly, while stirring, and keep in a stoppered bottle. Make a saturated solution of chrysoidin in distilled water and add a crystal of thymol to make it keep ; a dilute solution of nitric acid (Coml) is made, one part of acid to two of distilled water. For sputum the following process is the most simple : Spread a thin layer on a cover glass and let it dry ; when quite dry pass it two or three times through the flame of a small Bunsen burner and let it cool. Filter two or three drops of magenta solution in a watch glass ; place the cover glass with the sputum downward on the stain, taking care there are no air bubbles under it. Let it remain for fifteen or twenty minutes, until it has taken on the brown stain : wash off the superfluous color in distilled water and place the cover glass in absolute alcohol for a few minutes ; remove and dry perfectly in the air ; place a drop of Canada balsam on the cover glass and mount. It is better to use small glass funnels for filtering the stains, as they protect the fingers. Sections of hardened tissue are treated in the same manner, with the necessary modifications. With regard to the powers required to examine these bacilli after they have been mounted by this process, an ordinary  $\frac{1}{4}$  inch with daylight will show them perfectly, and a  $\frac{1}{8}$  dry glass will show that they are rows of spherical bodies, with the same illumination. Their diagnostic value remains to be settled.

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**BEEF-TEA AND URINE.**—It is rather a novel idea that in taking a cupful of beef-tea we are really drinking what is equivalent to a cup of urine. According to Mr. Masterman, however, who not long since published a chemical analysis of beef-tea, the two are as alike as may be, only that urine appropriately contains more urea and uric acid. And now comes Dr. Neale, of London, who has been, apparently, in the East Indies, and not only assures us that urine is used as a vehicle for (less agreeable?) medicines, but that, “as a stimulant and general pick-up, I have frequently seen a glass of a child’s or a young girl’s urine tossed off with great gusto and apparent benefit.” Reduced to straits, we presume we might so use it, but we confess that, usually, “as a stimulant and general-pick-up,” we mightily prefer the other form of the cup that cheers but does not inebriate.—*Medical News in Journal of Medical Science.*



## Editorial.

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### IMPORTANT LEGAL DECISION RESPECTING LIEBIG'S EXTRACT OF MEAT.

A large amount of space in the issue of the *Pharmaceutical Journal and Transactions* for Nov. 19th is taken up by a report of Mr. Justice Field's judgment in the great Liebig's Extract of Meat case, which has just been concluded in England. The suit was brought by the Liebig's Extract of Meat Company against R. W. Anderson, who manufactures an extract which he calls "Baron Liebig's Extract of Meat." The use of the name was of course the cause of the action, but the judge, after reviewing the case, in a very thorough manner, came to the conclusion that the great company had no exclusive right to use or monopolize either the process or the name. According to this they therefore become public property.

It was not shown that Anderson's extract is put up as an imitation of the other. Though a similar jar is used it is capped by a trade-mark and not by a capsule, and there is no label with a caution that none is genuine unless the label is intact. Nor is there any certificate or signature of Justus von Liebig, but only the name of Anderson. There is, however, a strong claim to the name "Liebig," and a portrait of the worthy chemist is prominently displayed. The judge held that the case of the plaintiffs—that unwary people might be deceived—was not maintained, and in regard to this said: "Purchasers must use their eyes. Of course I know that there are persons who will run against posts at railway stations; so there are people who do not use their eyes, and who buy things that they are said to be deceived by." "I think that the liberty which there is for every man to sell his goods by the title which he thinks most attractive should not be restrained unless it is proved that what he is doing is reasonably calculated to deceive."

Some curious facts were brought out in evidence, and one of the most remarkable is that the so-called Liebig process was discovered by Proust, a French chemist, and published by him in

the year 1801. Baron Liebig made the method more practicable, and himself gave it publicity in his "Annals of Chemistry and Pharmacy," published in 1847, and again in his familiar "Letters on Chemistry," issued in 1851. This drew attention to the matter, and the extract previously used only in medicine became an article of food in great demand. In 1863 he became associated with a company designated as the Fray Bentos Company, for the manufacture of the *Extractum Carnis Liebig* in South America, Baron Liebig or his deputy, Prof. Pettinkofer to examine, in Munich, all the extract made, and having found it satisfactory, to allow his signature to be attached to it, and receive two per cent. of the net profits realized by the Company.

Subsequently many firms went into this manufacture, and a few years after the Fray Bentos Co., now the Liebig Extract of Meat Company., seeing the competition then existing, endeavored to protect themselves by various patent rights, etc., which, ultimately, led to an action against a gentleman named Tooth, of Sydney, Australia, who made and put up an extract for Messrs. Allen & Hanburys, of London. This suit ended precisely as the late trial, and as the Vice-Chancellor said, Liebig's name had ceased to be the distinctive name; if ever it was, of the manufactures of Liebig, and had become "common property."

There is no doubt but this decision, now confirmed, will have a stimulating effect on the extract of meat manufacture, which the great company have in vain attempted to monopolize.

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Professor Montgomery, M.A., B.Sc., Lecturer on Botany in the Ontario College of Pharmacy and the Toronto School of Medicine, has been appointed one of the University Examiners for 1883.

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We are pleased to see the name of Dr. W. C. Cousens, a graduate of the O. C. P., among the successful ones for the degrees of R.C.P. and L.R.C.S., at the recent examinations at Edinburgh. Mr. Cousens formerly conducted the retail business of the Messrs. Lyman, in this city.

## Editorial Summary.

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IT is said that the powder of pyrethrum has been found as effectual as ung. hydrarg. for pediculi pubis.

DR. FRANK of the Strassfurt Bromine Works, says that petroleum is a prompt and efficacious application for burns from bromine.

DR. WETHERILL, of Philadelphia, writes to the *American Journal of Pharmacy* that cinchona deposits may be readily cleaned from bottles by using aqua ammoniæ.

FABINI's statement that the color of some specimens of carbolic acid is due to copper receives confirmation by A. Sicha, who finds the merest trace of sulphate of copper produces a reddening of colorless acid previously distilled in glass.

THE leaves of the sea island cotton plant, *Gossypium Barbadense* may, it is said, be employed successfully as a galactagogue, six or eight leaves being used for making a teacupful of infusion. This dose may be administered three or four times during the day.

MARTIN'S *Chemist's & Druggists' Bulletin* heretofore published monthly, is now being issued as a weekly. With the liberal share of advertising patronage it possesses, and the interest that is sustained in the reading matter, it has every prospect of being a commercial success.

THE Bennett battery which for cheapness, constancy and power appears likely to supersede others, consists of an iron can partly filled with iron borings, and having in the centre a porous cylinder containing a peice of zinc. The exciting fluid is solution of caustic soda. It is claimed that the zinc white formed in the process will more than pay expenses.

A HANDY form of dressing for the penis in gonorrhœa is suggested by Dr. Chalkley, in the *Southern Clinic*. The glans is covered with a thin layer of absorbent cotton, and over this is drawn a sufficiently large condom. Undue pressure on the organ

is in this way avoided, and the movements of the limbs is not interfered with, while the bandage has much in its favor in regard to comfort and cleanliness.

ACCORDING to late experiments by Herr Gruning of Dorpat, Russia, the root of the yellow water lily, *Nuphar luteum* contains an alkaloid to which the name nupharine has been given. It is soluble in alcohol, chloroform, ether, amylic alcohol and dilute acids, but almost insoluble in petroleum benzine. The root of the white pond lily, *Nymphaea odorata*, contains an alkaloid similar in physical characters and solubilities, but giving different color reactions.

ANOTHER victim to Paris green is reported by the Hamilton correspondent of the *Mail* of December 27th. Mrs. Blakeley, wife of Robert Blakeley, 104 Victoria avenue north, while laboring under mental depression, mixed a dose of water and Paris green and took it. She died at 7 p.m., notwithstanding that two doctors were in attendance. The lady was fifty-eight years old, and leaves a grown-up family. No inquest was deemed necessary.

THE *Chemists' & Druggists' Diary*, presented by the publishers of the *London Chemist & Druggist*, is to hand, and, as usual, contains a large amount of information interesting to the trade. This year the reading matter is principally confined to a treatise on veterinary matters, containing a great number of formulæ for medicines for curing the ills of dumb creatures generally, and from the clear and concise way in which the diseases and treatment are described will be sure to prove practically useful. To non-subscribers the price of the Diary is three shillings, sterling.

A NOVEL mode of making syrup of phosphate of iron is proposed by a writer in the *British Medical Journal*; a piece of platinum foil is placed at the bottom of a beaker, and upon it 2 ounces of fine iron wire, and, finally, 1 pound of acid phosph. dil. The iron is dissolved by the electric current thus generated, and the action should be allowed to go on until the appearance of a blue deposit shows that the acid will hold no more phosphate in solution. The liquid is filtered, an ounce more of acid, 24 ounces of sugar, and 8 fluid ounces of syrup of black currants are added. This is said to furnish an exceptionable product, of pleasant taste.

THE death is reported of Dr. G. W. Septimus Piesse, author of the well-known "Art of Perfumery" and other works, and principal of the house of Piesse and Lubin, of Broad Street, London. He started in life as a practical optician and afterwards student as a chemist under Professor Graham. He next became an analytical chemist, but not succeeding very well, entered the the house of Messrs. J. & E. Atkinson, which he subsequently left for that of Mr. Breidenbach, and ultimately entered into partnership with Mr. Lubin. According to the *Chemist & Druggist*, to which we are indebted for these particulars, Dr. Piesse was born in 1820, and at the time of his death was therefore in his 63rd year.

THE bark of the fringe tree, *Chionanthus Virginica*, to which King ascribes aperient, alterative and diuretic properties, has been lately much extolled as a cholagogue, by Dr. Blackerby, of Kentucky, in the *Therapeutical Gazette*. He reports having given it thorough trial, more especially in hepatic torpor, and the enlarged and undurated liver common to hard drinkers, and with the happiest results. The cases cited appear very conclusive, and encourage further trial of the remedy. The drug should be administered in doses equivalent to half to a drachm of fluid extract, in water or syrup, three times a day. Cascara sagrada, nux vomica, or hyoscyamus may be combined with the remedy if specially indicated.

THE Registrar of the British Pharmaceutical Society is empowered by law to send, at intervals, to every defaulter on the Register, a registered letter enquiring whether he has ceased to carry on business, or changed his place of residence. If no answer is returned in six months a second letter is sent, and if this is unanswered at the end of three months, the name of the person addressed is erased from the Register. This has been recently done in England, and four hundred and twenty names thus struck from the roll. The list, which is an unusually large one, is published in the *Pharmaceutical Journal*, of London, and includes the deaths, removals and persistent defaulters, up to date.

From a German source, quoted in the *Monthly Magazine of Pharmacy*, we learn that an ivory substitute, quite equal to vegetable ivory, may be obtained by treating sound, selected, peeled potatoes with cold water, followed by dilute, pure sulphuric acid,

boiling for some time, and finally washing in warm water, and drying carefully. Thus prepared the potatoes are of a creamy white color, hard and elastic, of close grain, easily turned in a lathe, and taking color readily. If this statement turns out reliable, it will have a decided effect in cheapening those articles, as billiard balls, caps for bottles, turned work, mouthpeices, etc., now made from real or vegetable ivory.

MR. R. A. CRIPPS, who, at the request of Professor Attfield, undertook some researches on the history of citrine ointment, found that the first notice of an ointment of that name is in the London Pharmacopœia of 1650. It was, however, composed of white coral, limpet shells, tragacanth, quartz, white marble and white lead, with hogs lard, salt, and hen's grease, and bore no resemblance to the ointment of the present time. The Edinburgh Pharmacopœia of 1792 contains an ointment of nitric acid with mercury, and doubtless gave origin to citrine ointment proper. It is said by some to have been an imitation of the well-known "Golden eye salve," and by others is stated to have been made first in France as a remedy for itch.

DR. SQUIBB in the *Ephemeris* takes exception to the statement of Dr. Shoemaker, in the *Medical Bulletin*, that oleates as commonly prepared, namely by direct combination with oleic acid, are not true oleates, but merely solution of oxide in the acid, and as such give negative therapeutical results; also that the true way to prepare these salts is by double decomposition with oleate of sodium and metallic salts. The editor of the *Ephemeris* thinks that this is neither the simplest nor the easiest way of preparing oleates, and very few are prepared in this way, nor are the oleates made by solution of "indefinite and unstable character." Very full details are given by Dr. Squibb for the preparation of the oleates of the alkaloids and metals, some of which will appear in this or subsequent numbers of the journal.

THE most remarkable and hitherto unheard of properties are ascribed to tincture of oats, *Avena sativa*, by Dr. Sell, in the New York *Medical Gazette*. It is "diuretic, slightly laxative, tonic, stimulant, but especially nerve stimulant. It is said to be efficacious in female diseases; useful as a substitute for intoxicating drinks,

invaluable in insomnia, and a perfect cure for the opium habit. Several cases of its wonderful virtue in the last mentioned complaint are instanced by the author, who is very enthusiastic in the praise of his discovery of this new panacea. We can ourselves bear evidence of the virtue of this remedy, having tried it frequently in gastralgia produced by prolonged abstinence from food. Administered in the form of porridge, and with the addition of the milk of the cow, *Bos taurus*, it always proves wonderfully satisfactory.

THE *Chemist & Druggist* says that the patent for the manufacture of artificial alizarine from coal tar products expires in June next, and a strong attempt has been made for a two years extension. This was met by much opposition from the Turkey red dyers, and the latter class have proved victorious. The profits of the patentees and licensees have been enormous. About a year ago the price was raised in a single night from 10d. to 1s. 3d. per lb. Turkey red fabrics went up a shade in price, and one dyer stated that the advance to him would mean a loss of £45,000 stg. in one year. The madder industry has been almost altogether destroyed by the coal tar product, and no doubt the finishing stroke will be given by the unrestricted manufacture of alizarine. Already, arrangements have been made in England for commencing its production on a large scale on the day that the patent expires.

KOCH's views as to tuberculosis being caused by a peculiar *bacillus* are vigorously assailed by Formad in the *Phila. Medical Times*. This writer says that in every tuberculous or scrofulous subject—either man or beast—there is a special anatomical peculiarity, namely, that the organs concerned in the production of white blood corpuscles are relatively larger than they should be in proportion to the size of the animal, while the lymph spaces are smaller. Subjects presenting these peculiarities are subject to tuberculosis, which in all cases is developed by inflammation, whether through malnutrition, confinement, or any injury resulting in inflammation. Only such subjects provide suitable material for the growth and development of the so-called '*Bacillus tuberculosis*' which it is asserted is not the cause but the accompaniment of this disease,

though the bacilli may by effecting destruction of tissue hasten on or bring about a fatal termination.

WE learn from Professor Proctor's paper, read before the British Pharmaceutical Conference, that in experimenting with Dr. Lunge's methyl-orange test in alkalimetry, the writer found it also useful as an indicator of the presence or absence of free acids in salts, which in their normal condition, have an acid reaction with litmus. One grain of the dye in a pound of water makes an orange yellow test liquor, two or three drops of which, added to an ounce of water, give it a yellow tint, which is changed to pink by a very small trace of mineral acid. It is not so sensitive to oxalic acid, still less so to acetic, and not at all to carbonic acid. Solutions of pure ferrous sulphate, pure alums, sulphate of zinc, chloride of lime, boracic acid, hydrocyanic acid, and arsenious acid are without action on the test. Organic acids generally do not give as sharp indications as mineral acids, but the reaction is as clear as with most of the tests heretofore used.

PROFESSOR CROFT, well-known to all our readers, and who by the way, is enjoying his *otium cum dignitate* with one of his children residing in Texas, lately contributed to the *Chemical News* a paper on rattlesnake poison, in which he alludes to an antidote much used by the Mexicans. It consists of a solution of iodine in iodide of potassium, and from two experiments made by the author—one on a buck and the other on a dog—it appears to be of real value, at least as far as the poison of the *cascabel* is concerned. Professor Croft killed a fair sized specimen of the rattlesnake, *Crotalus horridus*, which had not bitten anything, and found the gland fully charged with white opaque poison. On adding iodine solution to a drop of this a dense light-brown precipitate was immediately formed, quite similar to that obtained with most alkaloids, and not exhibiting a crystalline structure under the microscope. Being without chemical appliances, and more than a hundred miles from any laboratory, no further experiments were made, but it is suggested that possibly another reagent for alkaloids—a mixture of ferric chloride and solution of potassium iodide—might prove an antidote to the poison.

IN an article in the *Scientific American*, Professor A. Vogel



alludes to the fact that the stinging effect realized from contact with nettles is produced by formic acid, the irritating agent of bee-poison. The point of the nettle's sting is as brittle as glass, and by the lightest touch penetrates the skin, breaking off, pouring out its acid, and causing the burning sensation. The sting of the bee, and other insects, secretes the same fluid. When the bee is irritated a minute drop of acid forms at the point of the sting ready for insertion. Formic acid is a powerful antiseptic, and Professor Vogel thinks that at least one of its purposes is that of preserving the honey. The acid is always present in honey, but the amount differs. Holz says that in his long experience he has often noticed that the honey from what are called "rancorous swarms" has peculiar properties, having a harsh taste and sharp odor. It is probable that during the disturbances among the bees, their stings are run out with the tiny drop of acid at the end, and when quiet is again restored, the stings are drawn in, but the liquid does not return, being wiped off on the comb, thus finding its way into the honey. This explains how the honey of excitable bees tastes and smells sharper than that of peaceable bees, though in both the formic acid is never absent, and, except when present in undue quantity, does not hurt the flavor of the honey, nor render it injurious or unwholesome.

FROM Gehe's report we learn that the whole demand for bismuth may be supplied by the mines in New South Wales. The metal occurs as such, in pieces ranging from one-half to fifty pounds in weight, and is also found as sulphide or oxide. The usual summer sale of castoreum by the Hudson's Bay Company did not take place this season, and the price has therefore advanced. The new German Pharmacopœia recognizes cundurango, and the reputation of the drug seems to be looking up. The crop of Dalmatian insect powder has been large. The root of lily of the valley is in considerable demand. The crop of opium in Asia Minor, last year, was two and a half times as much as the average of the past twelve years. Chian turpentine is getting more plentiful. Benzoic acid, from coal tar products, has entirely displaced that from urine, as being much cheaper. The yearly consumption of quinine is about 4,000,000 ounces. Artificial coumarine is in good demand for flavoring tobacco, and is now about ten per cent.

cheaper. Vanilline is also lower in price. A new anilin black, styled "deep black E," the most intense yet known, is reported. Coca leaves are rather more plentiful, but the quality is not first class. Cape aloes is nearly as cheap as formerly. The official cinchona bark of the new German Pharmacopœia is *C. succirubra*, containing at least  $3\frac{1}{2}$  per cent. of alkaloids. The Germans grumble at the high price of American vaseline, and it is claimed that its sale is very much retarded thereby. The demand for resorcine is diminishing. Extract of nux vomica, in powder, and of course free from oil, may be made by previously exhausting the beans with petroleum gasoline.

AT a recent meeting of the Liverpool Chemists' Association Mr. A. C. Abraham read a paper on lime-water, detailing experiments made in regard to its preparation, preservation, and estimation. Lime water is, apparently, one of the simplest compounds that the pharmacist has to make, but the resulting preparation is generally very uncertain in composition and strength. It should be a simple saturated solution of hydrate of calcium, but, from the fact that pure hydrate is not practically obtainable, the formula of the B. P., produces an article always contaminated with sulphates chlorides, and other soluble salts. After trials of various methods, the writer fixed upon the following as giving the best results. A stock bottle, of a few gallons capacity, is first prepared by selecting a wide-mouthed bottle, with a tap hole near the bottom. Into the mouth is fitted a cork, previously well-soaked in melted paraffin. Into this is inserted, while the paraffin is still warm, a vent plug and a funnel tube. The tap hole is similarly furnished with a cork and piece of glass tube, bent upwards inside the bottle, and projecting slightly outside. To this is fitted a piece of rubber tube and a pinch cock, thus forming a tap. By turning this tube so that the upper end, inside the bottle, may be lowered, nearly all the liquid which may be put into the bottle can be drawn off without disturbing the lower sediment or any of the particles adhering to the sides. Several pounds of lime should be slacked, a large quantity of distilled water poured on, and after subsidence the clear liquor rejected. The operation should be repeated until the washings are no longer affected when rendered slightly acid with nitric acid and treated with nitrate of silver. When this is the

case, fresh water must be poured on, and stirred, the stony particles allowed to subside, and the milky liquid poured into the stock bottle, which must then be filled with distilled water, and well agitated. A very superior lime water may now be obtained when the liquid becomes clear. It will be found to answer to the pharmacopœial requirements of strength, so long as the temperature keeps below 60°F. From 778 to 791 parts will contain one of hydrate of calcium, but, at 70°, the solubility of the hydrate is reduced by about 10 per cent. The writer thinks that the B. P. standard is too high, as it is impossible to keep liq. calcis up to it in summer weather. It is therefore suggested that the quantity of volumetric solution of oxalic acid be made to read 180 instead of 200, thus allowing of a reduction of ten per cent. in strength, corresponding to the amount of hydrate that will be retained in solution at 70°F.

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#### PHARMACEUTICAL ASSOCIATION OF THE PROVINCE OF MANITOBA.

The first regular semi-annual examination of the Pharmaceutical Association of Manitoba was held in the rooms of the Association in Winnipeg, on Wednesday and Thursday, the 18th and 19th of October. It was the intention of the Council to have had the examination take place on the second Wednesday and Thursday of September, but as the Pharmaceutical Act of Manitoba permits the Council to alter the dates should they see fit, it was decided to postpone it one month to give the candidates an opportunity to make necessary preparations. Twelve candidates, in all, made application for examination, but as the Act requires that all candidates shall produce evidence of having been engaged in the drug business at least four years, and also of having taken courses of lectures in the different subjects prescribed for examination, only three were allowed to present themselves, that number only producing the necessary qualifications. The Board of Examiners, as appointed by the Council, were Messrs. Wm. Whitehead, H. E. Neelands and W. J. Mitchell. As will be seen by the papers, the subjects of examination were the same as those in Ontario. The maximum number of marks was 150 (25 in each subject) and the minimum 90. The candidates were required to show a thorough practical knowledge in each of the subjects. The report of the Board of Examiners shows the candidates as having passed in the

following order : N. H. Jackson, 100 marks ; James Parker, 95 ; and W. Bertrand Hutton, 92.

At a late meeting of the Council the following were admitted as members of the Association, having produced the necessary qualifications to comply with the requirements of the Act : P. K. Newton, Wm. Rose, E. H. Nelson, B. M. Canniff, John F. Howard, and A. H. Clark. The association is growing and increasing in influence, and it is the intention of the Council to follow in future more strictly the requirements of the Act. The Council at present is composed of five members, but it is proposed to petition the Provincial Legislature, at its next session, to amend the Act so as to increase that number.

Below we give the examination papers :

#### CHEMISTRY.

EXAMINER : H. E. NEELANDS.

TIME—TWO HOURS.

1. Give the formulæ for the following : Chloroform, Cane Sugar, Ammonia Carbonas, Soda Carbonas, Magnesia Sulphas, and Spiritus Rectificatus.
2. Describe the method of preparing Mercurous Chloride ; give the formula ; impurities, with tests for detecting them. What weight of mercury and mercuric chloride must be taken to yield ten kilos of mercurous chloride ?
3. Name the adulterations and impurities of the following, with tests for detecting them : Pulv. Acaciae, Potassii Iodidum, Spiritus Aetheris Nitrosi, Spiritus Rectificatus and Chloroform.
4. How do you determine the specific gravity of a solid, of a liquid, and of a powder ? Give the specific gravity of the following : Chloroform, Syrupus, and Acidum Sulphuricum.
5. Give the symbol and combining weight of the following : Oxygen, Sodium, Sulphur, Zinc, Phosphorus, Lead, Chlorine and Iodine.
6. State the properties and sources of the following : Liq. Ammonia Fortior, Potassii Iodidum, Chrysophanic Acid, Iodoform, and Acidum Salicylicum.
7. Give the technical names of the following : Galena and Cinnabar. How does exposure to the air affect Liquor Calcis ?
8. Give the solubilities of the following : Potassii Iodidum, Potassii Bromidum, Magnesia Sulphas and Plumbi Acetas.
9. Recognition of specimens and oral examination.
10. )

#### PHARMACY.

EXAMINER : W. J. MITCHELL.

TIME—TWO HOURS.

1. Give the percentage and specific gravities of the officinal alcohols. What is meant by "fifty over proof?" Name six of the principal tinctures in which proof spirit is used as the menstrua ; and six in which rectified spirit is used.
2. How many grains are there in twelve troy ounces ? What is their equivalent in avoirdupois weight ; also in grammes.
3. What is the officinal name for "corrosive sublimate?" How is it prepared ? Give its physical characteristics, its dose, and the antidote.
4. Define the term "alkaloid." Mention five alkaloids, and the source from which each is obtained, and give officinal names.
5. Give forms for the preparation of the following : Tinct. Aconiti Rad., Tinct. Gent. Co., Tinct. Iodi, Tinct. Digitalis, Tinct. Camph. Co., Lin. Saponis Co.

6. Name list of poisons mentioned in Pharmacy Act of Manitoba, in Schedule "A," and give antidotes for the three principal ones.
- 7- } Recognition of specimens and oral examination.
- 8- }

### MATERIA MEDICA.

EXAMINER: W. J. MITCHELL.

TIME—TWO HOURS.

1. Name the principal plants belonging to the natural order Umbelliferae.
2. Give the geographical source, and parts used, of Aloes, Calumba, Nux Vomica and Rhubarb.
3. From what plants are the following obtained, and the natural order to which they belong: Camphor, Opium, and Senna.
4. Name five plants of importance in medicine indigenous to Canada, with name and dose of such active principles as have been isolated.
5. What is Benzoin? When and how is it obtained? What are its properties and uses, and into what preparations does it enter?
6. Give officinal names, habitat, properties and doses of the following: Foxglove, Logwood, Henbane, Indian Hemp, May Apple and Blood Root.
- 7- } Recognition of specimens and oral examination.
- 8- }

### BOTANY.

EXAMINER: H. E. NEELANDS.

TIME—TWO HOURS.

1. Define Phanogamous and Cryptogamous plants; give examples of each, and into what classes are they divided. Explain each class fully.
2. What is the difference between an animal, a plant, and a mineral?
3. Describe the following kinds of roots: conical, napiform, and aerial. What is an epiphyte? Give three examples.
4. What are consolidated plants? and what regions are they particularly adapted to? and why?
5. Give the meaning of the following terms: Inflorescence, Deliquescent Stems, Dioecious Flowers, Polygamous Flowers, and Symmetrical Flowers.
6. What causes the sap to flow through a plant? and what is the meaning of the term "Endosmose?"
7. Mention the parts of a flower, of a pistil, of a seed, and of a stem.
8. Define Silique, Pyxis, Papilionaceous, Flower, Berry, Pepo. What is the green coloring matter of a plant called?
- 9- } Recognition of specimens and oral examination.
- 10- }

### PRESCRIPTIONS.

EXAMINER: WM. WHITEHEAD.

1. R Liq. Ammon. Acet., ℥iiss.  
     Vin. Antimon, ℥ij.  
     Tr. Digitalis, ℥ij.  
     Aqua Carui, ℥iv.  
     ft. mist.

Sig.: ℥ij to be taken warm every quarter of an hour during the chilliness.  
 Translate into Latin without abbreviations.

2. R Emp. Galban Co.,  
     " Resinæ.

M fiat emplastr, super, alutam extendend. quo pedes invol. post peditur.  
 Translate into English.

3. R Spts. Æther, Nit.,  $\mathfrak{z}\text{ij}$ .  
 Tr. Aconiti,  $\mathfrak{z}\text{j}$ .  
 Aquæ Anethi,  $\mathfrak{z}\text{iv}$ .  
 Liq. Ammon. Acet.,  $\mathfrak{z}\text{ij}$ .  
 ft. Mist. salin cujus, cap. cochlear parv. omni hora cursus nocte.
4. Define the difference between a liniment and a lotion—pessary and suppository, decoction and infusion.
5. Give dose of Morphia Sulph., Acid Hydrocyanic, B. P. Atropiæ Sulph., Arsenic, and give antidotes for each.
6. Define the following terms, and name some medicines of each class: Alterative, anæsthetic, anodyne, antacid, antalkalies, antemetics, anthelmintics, anthidrotics, antilithics, antiparasitics, antiperiodics, antiseptics, antispasmodics, aperients, stimulants, cholagogues, demulcents, descicants, diaphoretics, escharotics, deodorizers, diuretics, febrifuges, emmenagogues, expectorants, hæmostatics, hypnotics, sudorifics.
- 7-10.) Oral Examination.

## Practical Formulæ.

TO CLARIFY LIQUORS.—A good process is said to be the following: To each two gallons of the liquor add 150 grains of starch, 75 grains of dry egg-albumen, and 75 grains of sugar of milk, previously macerated in a little water until the two last ingredients are dissolved. The liquors clarified by this method are said to become quite brilliant, and to acquire a pleasant taste.—*New Remedies.*

CONDITION POWDER.—Elecampane root, fœnugreek seed, flax seed, juniper berries, popular bark, rosin, mustard, bran, each 4 parts; Liquorice root, ginger root, sulphate of soda, chloride of sodium, sulphur, sulphate of iron, each 3 parts; Carbonate of soda, gentian root, each 2 parts; Black sulphuret antimony, nitrate of potash, coriander seed, valerian root, each 1 part; Blood root, lobelia, mandrake root, and exsiccated alum, each  $\frac{1}{2}$  part.—*New Idea.*

CHRONIC RINGWORM. according to Mr. Alder Smith, of Christ's Hospital, is best treated by an ointment of oleate of mercury dissolved in ten times its bulk of heavy petroleum oil. It has succeeded in many cases where everything else has failed, and where it has failed nothing but croton oil and other irritants have succeeded. The ointment made with petroleum is preferable to that made with oleic acid, as the latter constantly forms troublesome yellow crusts on the diseased patches, and even on the healthy scalp. No case should be considered cured so long as a single broken stump bearing conidia can be detected.—*Chemist and Druggist.*

WINE OF PEPSIN.—

Saccharated pepsin.....	256	grains.
Cream tartar.....	1	drachm.
Simple elixir .....	6	ounces.
Sherry wine .....	4	“
Water .....	4½	“
Syrup .....	1½	“

Macerate cream tartar, water and pepsin three days, then add elixir and wine, and macerate three days longer, then filter and add syrup.

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ELIXIR SIMPLEX.—

Oil sweet orange.....	1	ounce.
“ caraway seed .....	½	drachm.
“ coriander seed .....	½	“
“ Ceylon cinnamon.....	15	minims.
“ anise .....	15	“

Mix, and take of above flavoring half ounce with half ounce of carbonate of magnesia; rub in mortar, and very gradually add two and a fourth pints of water; filter, then add nineteen ounces of alcohol and one and a fourth pounds of sugar; solve and filter again.

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LIQUID BLUEINGS FOR LAUNDRY USE.—

1. Dissolve indigo sulphate in cold water, and filter.
2. Dissolve good cotton blue (aniline blue 6 B) in cold water.
3. Dissolve Prussian blue with one-eighth part of oxalic acid in water.
4. Dissolve Tieman's soluble blue in water, with 2 per cent. of oxalic acid.—*New Idea*.

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BROWN'S TROCHES.—The following is said to be the formula of the above:—

Powdered extract of liquorice.....	16	ounces.
“ sugar .....	24	“
“ cubebs .....	4	“
“ gum arabic .....	4	“
Extract of conium.....	1	“

Mix, and with sufficient water make troches of the proper size.—*Druggists' Circular*.

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TO CLEAN BRASS.—The government method prescribed for cleaning brass, and in use at all the United States arsenals, is claimed to be the best in the world. The plan is to make a mixture of one part common nitric acid, and one-half part sulphuric acid, in a stone jar, having also ready a pail of fresh water and a

box of sawdust. The articles to be treated are dipped into the acid, then removed into the water, and finally rubbed with sawdust. This immediately changes them to a brilliant color. If the brass has become greasy, it is first dipped in a strong solution of potash and soda in warm water; this cuts the grease, so that the acid has free power to act.—*New Remedies.*

#### GREASE ERADICATOR—

Castile soap in shavings.....	4 Ounces.
Carbonate of soda .....	2 “
Borax .....	1 “
Aqua ammonia.....	7 “
Alcohol .....	3 “
Sulphuric ether .....	2 “

Soft water enough to make one gallon. Boil the soap in the water until it is dissolved, and then add the other ingredients. Although it is not apparent what good 2 oz. of ether can do in a  $\frac{1}{8}$  gallon of liquid, the mixture is said to be very efficient.—*Druggists' Circular.*

**MEDICATED SOAPS.**—The *Seifenfabrikant* gives the following recipes for the manufacture of the above :

**Tannin Soap.**—9 kilos of coconut oil are saponified with  $4\frac{1}{2}$  kilos of soda lye, then 250 grammes of tannin, which has been previously dissolved in spirits, are put in and mixed. The soap is perfumed with 30 grammes Peru balsam ; 10 grammes cassia oil ; 10 grammes oil of cloves.

**Iodine Soap.**—10 kilos cocoanut oil, 5 kilos lye at 38° B.,  $1\frac{1}{2}$  kilos of iodide of potassium, dissolved in  $\frac{1}{2}$  kilo of water.

**Gall Soap.**— $1\frac{1}{2}$  kilos of galls are stirred in 25 kilos of melted cocoanut oil, and the latter then saponified cold with  $22\frac{1}{2}$  kilos of soda lye at 38° B. The soap is colored with 350 grammes of ultramarine green, and perfumed with 75 grammes lavender oil, 75 grammes cummin oil.

**Camphorated-sulphur Soap.**—12 kilos. of cocoanut oil, 6 kilos of soda lye of 38° B.; 1 kilo of sulphate of potassium, dissolved in  $\frac{1}{2}$  kilo of water ; 160 grammes of camphor, which is to be dissolved in the melted cocoanut oil.—*Chemist & Druggist.*

**PLATING WITHOUT ELECTRICITY** has been made the subject of an English patent by Dr. Peter de Villiers, of St. Leonards-on-Sea. The inventor coats iron, steel, and other metals with silver, gold, nickel, copper, aluminium, zinc, tin, lead, or alloys of these or other metals, by immersing the heated metals article to be plated in a solution of certain salts of the covering metals, and then decomposes those salts on the metal by suitable reagents. The following formula is for a silver and tin alloy. Thoroughly cleanse the iron or steel to be covered with caustic alkali, then with pure



water. Then heat it to 150° C.; make a boiling solution of distilled water, 10 gallons; tartaric acid, 10 oz.; introduce into this solution when clear, 2 oz. chloride of tin dissolved in 40 oz. of water; then 1 oz., or less, of chloride of silver dissolved in concentrated solution of light sulphide of soda; boil for a quarter of an hour, and then immerse the iron, which will be soon coated with the alloy.—*Chemist and Druggist*.

CAMOMILE FLOWERS.—Professor Landerer writes to us from Athens:—"These grow abundantly in and around Athens, and if an English or German druggist or herbgather (Botanolozer, or Rhizolomer, as Hippocrates was called 3,000 years ago) would go out to Athens at the proper season, Dr. Landerer seems to think he could make a good thing of it, as he might employ poor women and girls to gather the flowers which could be dried in the sun. Dr. Landerer sends us a sample of the flowers, which we shall be happy to submit to any philhellen of an enterprising nature. He adds that Greek camomiles are necessarily more aromatic than those of more northern climates, as it is well known that aromatic principles are developed under sunny skies, while colder regions favour the development of bitter and astringent characters in plants. April is the season for gathering the camomiles. The name camomile is derived from the two words, *chame*, lying down, and *myla*, apple, either on account of the shape of the flowers, or from a supposed resemblance in the odour. In Greece they are commonly known as Aprilatika luludia, or flowers blooming in April.—*Chemist & Druggist*.

CARDAMOM GROWING IN CEYLON.—If all that we hear of the success which has attended the cultivation of cardamoms in the coffee districts of Ceylon be really trustworthy, we mean, of course, if it should stand the test of experience on a large scale, then indeed proprietors who may have been half inclined to despair at the short coffee crops may take heart of grace, and definitely adopt the conclusion that, with this and other new products, Ceylon is by no means played out yet. Cultivated Ceylon cardamoms are worth 8s. 6d. in the London market, and the supply might be considerably increased without bringing down the price to any appreciable extent. Now we have it on the authority of a well-known Ceylon planter, who has 16 acres of cardamoms in vigorous growth, that the yield on good soil is about 130 lbs. to the acre, which at present rates would give a gross return of 55l. 5s., or say 40l. per acre net. Even if we divide this estimate by 2, there would still be a good margin for profit and contingencies. We shall be glad to publish practical hints as to the best varieties, methods of cultivation, selection of soil, elevation, aspect, &c.—*The Planters' Gazette*.

# Ontario College of Pharmacy.

Incorporated by Act of Parliament, 1871.



**TERM** :—The Spring Term will commence on TUESDAY, MARCH 13TH, and continue until FRIDAY, JUNE 15TH, 1883.

**LECTURES** :—*Pharmaceutical and Practical Chemistry*.—A Course of Lectures and Laboratory Instruction.

*Materia Medica*.—The lectures will embrace the organic *Materia Medica* of the British Pharmacopœia and be illustrated by a full set of specimens.

*Botany*.—The course will include lectures on Elementary Botany and Classification as far as relates to the Botany of the Pharmacopœia. Botanical excursions will take place at intervals during the season, so that the student may gain a practical knowledge of the subject.

*Dispensing*.—The lessons will comprise practical instructions on the art of Dispensing, and a short course on the construction and translation of prescriptions.

*Elementary Chemistry*.—These lectures will include the principles of Chemical Philosophy, the properties of the elements, etc., and may be regarded as preparatory to the more advanced instructions in Pharmaceutical and Practical Chemistry.

**FEES**.—Thirty-six dollars, in advance.

For further particulars apply to

E. B. SHUTTLEWORTH,

*Director.*

# Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor not later than the 25th of each month.

## BUSINESSES FOR SALE.

**DRUG BUSINESS FOR SALE.**—Good paying—in one of the largest towns in Ontario; stock in excellent order, and business has been carefully run: established over ten years; this is one of the best chances ever offered, and parties wishing to buy will do well to look into it; stock about \$3,200, terms cash; immediate possession if necessary. Apply to Lyman Bros. & Co., Toronto.

## BUSINESSES WANTED.

**G. G. Eakins, Harrison,** wants to purchase a business, Western Ontario preferred.

**F. Hurdon, Midland,** wishes to buy a business.

## SITUATIONS VACANT.

**APPRENTICE OR IMPROVER.**—Messrs. S. & J. H. Walford, Renfrew, have an opening for a young man of about two years' experience, or would take an apprentice.

**IMPROVER.**—Dr. McWilliam, Dundalk, wants an apprentice who has had about two years' experience.

## SITUATIONS WANTED.

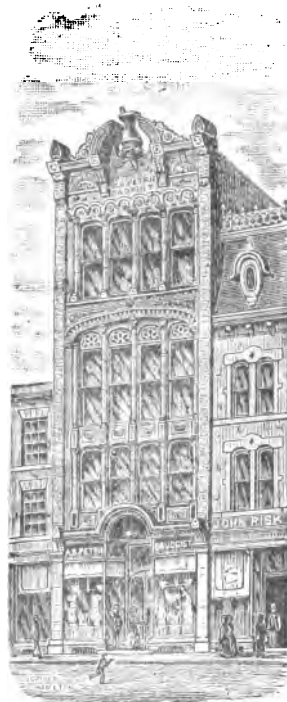
**ASSISTANT.**—Geo. D. Patterson, Kendall, is open for an engagement.

**IMPROVER AND TELEGRAPH OPERATOR.**—W. Ramo, Box 12, Waterloo, who has had one year's experience in the Drug business, and is competent to take charge of a small Telegraph business, wants a situation where he could be employed in both capacities.

**SODA WATER MAKER.**—W. E. Brookes, of Perth, wants a situation in a Soda Water Works, to which business he is accustomed.

**APPRENTICE.**—Norman Gillespie, Innerkip, 17 years of age, wants to learn the drug business.

## BUSINESS NOTES.



**Mr. A. B. Petrie, of Guelph,** who has had the reputation of possessing the most handsomely fitted drug store in Dominion, has just finished another store in the same town, the first-named business being continued under the management of Mr. T. S. Petrie. The new store, of which the accompanying

## BUSINESS NOTES—CONTINUED.

cut will give some idea, is 22x96, four stories high, with basement; built of stone, with ornamental iron front. The ground floor is laid with tiles, slate and Italian marble, and no expense has been spared to make the interior fittings of the store as com-

plete as possible. The Guelph *Herald* gives the building the credit of being the handsomest in the town.

A. V. Delaporte, of Church street, Toronto, has sold out to W. S. Wood.

S. H. Ashton, who succeeded D. W. Doan in Aurora, is dead.

Dr. W. Milne, who carried on a drug business at Claremont is also reported deceased.

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 MARKET REPORT.

December is always dull, except in the line of Christmas goods, and this month has proved no exception to the rule. Orders have been confined to necessary articles, but it is anticipated that business will be brisk after stock taking and the usual excitement of the holidays are over.

*Opium.*—The market has been quiet, but holders express great confidence in future prices. Morphia is without any change whatever.

*Quinine* has been selling pretty freely, but at reduced prices, and stocks are now beginning to accumulate. Cinchonidine continues scarce and dear.

*Miscellaneous Drugs.*—Balsams are without change. The excitement in calumba and quassia has pretty much died out, as these drugs are said to have proved unfit for hop substitutes, and prices have consequently receded. Essential oils generally are about as last month, but lemon is rather weak; Cape aloes is slightly easier; Camphor remains very low; Shellac is rather firmer; Cubeb berries still continue high.

*Paints and Oils.*—Cotton seed oil has ruled for some time past considerably dearer, a large demand having sprung up for the oil as a lard and butter substitute. Linseed oil is slightly lower; Cod liver oil is still high, and seal oil is extremely dear and scarce. Spirits turpentine is a shade easier at the moment, but no change in price is looked for until the new crop is at hand. There is no ge in ground lead, or colors in oil.

DRUGS, MEDICINES, &c.	\$ c.	\$ c.
Acid, Acetic, fort .....	0 12	@ 0 14
Benzoic, pure .....	0 15	0 30
Carbolic, cryst., med .....	1 25	1 50
" " com .....	0 0	0 50
Citric .....	0 80	1 00
Gallic .....	1 60	1 80
Muriatic .....	0 03½	0 06
Nitric .....	0 10½	0 15
Oxalic .....	0 18	0 19
Salicylic .....	2 10	2 40
Sulphuric .....	0 02½	0 05
Tannic .....	1 10	1 25
Tartaric, pulv .....	0 65	0 75
Ammon, carb. ....	0 21	0 24
Bromide .....	0 75	0 90
Iodide .....	4 00	5 00
Liquor, 880 .....	0 20	0 22
Muriate .....	0 14	0 15
Æther, Nitrous .....	0 30	0 45
Sulphuric .....	0 50	0 60
Antim. Nig., pulv .....	0 15	0 17
" Tart .....	0 55	0 60
Alcohol, 95 per ct., bbl ..	2 75	3 10
Arrowroot, Jamaica .....	0 14	0 22
" Bermuda .....	0 45	0 65
Alum .....	0 02½	0 03½
Balsam, Canada .....	0 45	0 50
Copaiba .....	0 90	1 10
Tolu .....	1 00	1 25
Bark, Bayberry, pulv .....	0 18	0 20
Canella, .....	0 12	0 14
" pulv .....	0 20	0 22
Peruvian, yel. pulv .....	0 25	0 50
" red .....	1 60	2 40
Prickly Ash .....	0 30	0 40
Slippery Elm, grd. bulk ..	0 18	0 25
" flour, packets .....	0 28	0 32
Sassafras .....	0 12	0 10
Wild Cherry .....	0 10	0 12
Berries, Cubebs, ground .....	1 20	1 40
Juniper .....	0 07	0 10
Beans, Tonquin .....	2 25	3 00
Vanilla .....	10 00	15 00
Bismuth, Trisnit .....	2 50	2 60
Carb. ....	2 60	2 70
liquor .....	0 35	0 55
Borax, refined .....	0 18	0 20
Camphor, American .....	0 35	0 37
" English .....	0 48	0 10
Cantharides .....	1 50	1 60
" Powdered .....	1 61	1 75
Chiretta .....	0 30	0 32
Chloroform. Pure .....	1 15	1 75
" D. & F .....	1 90	2 00
" German .....	0 60	0 70
Chloral hydrate .....	1 35	1 60
Cinchonine, Muriate .....	0 41	0 48
" Sulphate .....	0 34	0 42
Cinchonidia, Sulphate .....	1 10	1 20
Cochineal, S. G. ....	0 45	0 50
" Black .....	0 45	0 50
Collodion .....	0 75	0 90
Cuttle-Fish Bone .....	0 35	0 40
Ergot .....	0 60	0 80
Extract Belladonna .....	3 10	3 10
" Colocyth, Co. ....	1 25	1 75
" Gentian .....	0 50	0 60
" Hemlock, Ang .....	1 00	1 05
" Henbane, .....	3 00	3 50
" Jalap .....	2 50	5 00
" Mandrake .....	1 75	2 00
" Nux Vom. ....oz	0 20	0 30
" Opium .....	0 90	0 00
" Rhubarb .....	4 00	5 00
" Sarsap. Hon. Co. ....	1 00	1 20
" " Jam. Co. ....	4 00	4 50
" Taraxacum, Ang .....	0 65	0 80
Flowers, Arnica .....	0 20	0 25
" Chamomile .....	0 40	0 50
Fuller's Earth .....	0 03	0 04
Gum, Aloes, Barb .....	0 30	0 70
" " Cape .....	0 20	0 25
" " powdered .....	0 23	0 25
" " Socot .....	0 54	0 75
" " pulv .....	0 62	0 80
Arabic. Select .....	0 40	0 45
" " powdered .....	0 45	0 55
" " sorts .....	0 18	0 20

DRUGS, MEDICINES, &c.—Contd.	\$ c.	\$ c.
Gum Arabic Sorts, powdered ..	0 20	0 30
Assafoetida .....	0 20	0 25
Benzoine .....	0 50	0 80
Catechu .....	0 12	0 15
" powdered .....	0 20	0 25
Gamboge .....	1 00	1 25
Guaiaicum .....	0 65	1 00
Myrrh .....	0 45	0 85
Sang Dragon .....	0 15	0 45
Scammony, powdered .....	4 90	5 00
" " Virg. ....	12 50	14 00
Shellac, Orange .....	0 35	0 40
Shellac, liver .....	0 33	0 38
Storax .....	0 65	0 50
Tragacanth, flake .....	0 65	1 35
" common .....	0 25	0 65
Galls .....	0 20	0 21
Gelatine, Cox's 6d. ....	1 20	1 25
" French .....	0 50	0 80
Glycerine, common crude .....	0 25	0 28
" " 30° .....	0 35	0 38
Prices .....	0 70	0 00
Honey, Canada, best .....	0 20	0 25
Iron, Carb. Precip. ....	0 16	0 20
Citrate Ammon .....	0 95	1 00
" & Quinine, oz. ....	0 45	1 10
" & Strychine .....	0 18	0 20
Peichloride solution .....	0 16	0 20
Sulphate, pure .....	0 06	0 10
Iodine, commrcial .....	2 25	2 50
Resublimed .....	2 75	3 00
Jalapin .....	0 75	1 50
Kreosote .....	0 75	3 00
Leaves, Buchu .....	0 25	0 30
Belladonna .....	0 30	0 33
Foxglove .....	0 27	0 38
Henbane .....	0 25	0 25
Horehound .....	0 15	0 25
Lobelia .....	0 20	0 25
" pulv. ....oz	0 40	0 45
Senna, Alex .....	0 23	0 25
" E. I. ....	0 10	0 14
" Tinnevely .....	0 13	0 25
Uva Ursi .....	0 15	0 17
Lime, Chloride .....	0 02½	0 05
Lime, Hypophos; hite .....	1 90	2 25
Sulphate .....	0 10	0 11
Lead, Acetate .....	0 13	0 17
" Brown .....	0 09	0 10
Leptandrin .....	0 10	0 75
Lye, Concentrated .....	0 95	1 25
Liquorice, Solazzi .....	0 50	0 55
" Martucci .....	0 35	0 37
" Other brands .....	0 14	0 35
Magnesia, Carb. ....oz	0 20	0 25
" " 4 oz. ....	0 18	0 22
Calcined .....	0 60	0 70
Citrate .....	0 40	0 75
Mercury .....	0 10	0 65
" Ammoriated .....	1 25	1 30
" Bichlor .....	0 80	0 90
" Biniodide .....	3 60	4 10
" Chloride .....	0 90	1 10
" C. Chalk .....	0 40	0 70
" Nit. Oxyd .....	1 10	1 30
Morphia Acet .....	2 75	2 95
" Mur. ....oz	2 75	2 90
" Sulph. ....oz	2 75	2 90
Musk, pure grain .....	32 00	.....
" Canton .....	0 60	0 70
Moss, Irish .....	0 12	0 15
Oil, Almonds, sweet .....	0 60	0 65
" " bitter .....	12 00	13 00
Aniseed .....	3 75	4 00
Bergamot, super .....	3 60	4 00
Caraway .....	3 20	3 50
Cassia .....	1 50	2 60
Castor, E. I .....	0 10	0 12
Ced r. ....	0 50	0 70
Citronella .....	1 25	1 50
Cloves, Ang .....	2 50	3 00
Cod Liver, Nor., Imp. Gal ..	3 50	3 75
" " N. F. ....oz	2 25	2 50
Croton .....	1 85	2 00
Hemlock .....	0 45	0 90
Juniper Wood .....	0 65	0 90
Berries .....	0 00	2 00
Lavand, Ang. ....oz.	4 50	5 00

DRUGS, MEDICINES, &c.—Cont'd		\$ c.	\$ c.
Oil, Lavand, Exotic.....lb.		1 40	3 50
Lemon, .....		3 50	4 00
Orange, .....		2 40	2 60
Neroli, super.....oz.		3 50	5 50
Origanum.....lb.		0 05	0 85
Peppermint Ang.....		13 00	15 00
Amer.....		3 75	4 75
Rose, Virgin.....oz		13 00	14 00
" good.....		7 00	8 00
Santal Ang.....lb		9 00	9 75
Sassafras.....		1 00	1 20
Verbena.....		1 75	2 00
Wintergreen.....		4 00	4 50
Wormwood, pure.....		9 50	0 00
Ointment, blue.....		0 50	0 55
Opium, Turkey.....		4 00	4 75
pulv.....		7 70	9 00
Orange Peel, opt.....lb.		0 35	0 40
good.....		0 16	0 25
Pill, Blue, Mass.....		0 55	0 75
Potas., Bi-chrom.....		3 14	0 16
Bi-tart.....		0 35	0 40
Bromide.....		0 48	0 53
Cyanide.....		0 52	0 55
Carbonate.....		0 13	0 15
Chlorate.....		0 22	0 21
Iodide.....		2 00	2 25
Nitrate.....		8 75	11 00
Sulphuret.....		0 25	0 35
Pepsin, Boudault's.....oz		1 20	1 20
Morson's.....oz.		0 90	1 00
Phosphorus.....		0 90	1 05
Podophyllin.....		0 45	0 50
Quinine, Howard's.....		2 30	2 75
German.....		1 85	2 05
Root, Colombo.....lb.		0 25	0 31
Curcuma, grd.....		0 11	0 15
Elecampane.....		0 16	0 17
Gentian.....		0 17	0 30
" pulv.....		0 21	0 20
Hellebore, pulv.....		0 15	0 18
Ipecac.....		1 75	0 00
Jalap, Vera Cruz.....		0 38	0 45
Liquorice, select.....		0 13	0 15
" powdered.....		0 13	0 15
Mandrake.....		0 12	0 20
Orris,.....		0 18	0 25
Rhubarb, Tri nmed.....		2 25	2 40
" E. I.....		0 85	0 95
" pulv.....		1 00	1 20
Sarsap., Hond.....		0 50	0 65
" Jam.....		0 60	0 00
Squills.....		0 16	0 20
Senega.....		0 95	1 00
Spigelia.....		0 55	0 61
Sal., Epsom.....		0 02	0 02½
Rochelle.....		0 35	0 38
Soda.....		1 25	2 50
Seed, Anise.....		0 12	0 15
Canary.....		5 00	6 00
Cardamon.....		2 40	2 75
Fenugreek, g'd.....		0 05	0 09
Flax, Oat, Cash 100 bs		3 00	0 00
" Imported.....		3 00	3 00
Hemp.....		0 01	0 06½
Mustard, white.....		0 10	0 15
Saffron, American.....		0 60	0 75
Spanish.....		18 00	0 00
Santonine.....		4 50	5 50
Sago.....		0 08	0 09
Silver, Nitrate.....Cash		13 20	14 00
Soap, Castile, mottled.....		0 03½	0 11½
Soda, Ash.....		0 02	0 05
Bicarb. Newcastle..Keg		3 00	3 60
" Howard's.....lb		0 16	0 16
Caustic.....		2 50	5 00
Spirits Ammon., arom.....		0 40	0 45
Strychnine, Crystals.....oz		1 75	2 00
Sulphur, Precip.....lb.		0 15	0 16
Sublimed.....		0 03½	0 03½
Roll.....		0 02½	0 03½
Verdigris.....		0 50	0 55
Wax, White, pure.....		0 65	0 75
Zinc, Chloride.....oz		0 10	0 15
Sulphate, pure.....lb		0 09	0 12
" common.....		0 06	0 10

DYESTUFFS.

Anatto.....	0 35 @ 0 60
Aniline, Magenta, cryst.....	2 15 2 50

DYESTUFFS—Continued.

Argols, ground.....	0 15 0 33
Blue Vitriol, pure.....	0 06½ 0 08
Camwood.....	0 05½ 0 08
Copperas, Green.....	0 01½ 0 02
Cudbear.....	0 15 0 30
Fustic, Cuban.....	0 02½ 0 03
Indigo,.....	0 75 1 00
Extract.....	0 25 2 36
Japonica.....	0 08 0 10
Lacdye, powdered.....	0 33 0 38
Logwood, Camp.....	0 02½ 0 03
Extract.....	0 9 0 12
" 1 lb. bxs.....	0 13½
" ½ lb. ".....	0 14½
Madder, best Dutch.....	0 12½ 0 14
Quercitron.....	0 03 0 05
Sumac.....	0 06 0 07
Tin, Muriate.....	0 10½ 0 12½
Redwood.....	0 03½ 0 04

SPICES.

Allspice.....	0 20 @ 0 23
Cassia.....	0 20 0 35
Cloves.....	0 40 0 50
Cayenne.....	0 33 0 37
Ginger, E. I.....	0 12 0 14
Jam.....	0 27 0 30
Mace.....	0 81 1 00
Mustard, com.....	0 20 0 25
Nutmegs.....	0 95 1 00
Pepper, Black.....	0 18 0 20
White.....	0 30 0 32

PAINTS, DRY.

Black, Lamp, com.....	0 08 @ 0 10
" refined.....	0 18 0 25
Blue, Celestial.....	0 09 0 12
Prussian.....	0 65 0 75
Brown, Vandylke.....	0 05 0 06
Chalk, White.....	0 01 0 01½
Green, Brunswick.....	0 07 0 10
Chrome.....	0 16 0 25
Paris.....	0 22 0 24
Magnesia.....	0 15 0 20
Litharge.....	0 07 0 08
Red Lead.....	0 05½ 0 07
Venetian.....	0 02½ 0 03
Sienna, B. & G.....	0 07 0 08
Umber.....	0 07 0 10
Vermillion, English.....	0 90 1 00
American.....	0 20 0 22
Whiting.....100 bs	0 85 1 00
White Lead, dry, gen.....lb.	0 06½ 7 00
" No. 1.....	0 05½ 6 00
Yellow Chrome.....	0 09 0 15
" Ochre.....	0 02 0 03
Zinc White, Star.....	0 06½ 0 11

COLORS, IN OIL.

Blue Paint.....	0 12 @ 0 15
Fire Proof Paint.....	0 06 0 08
Green, Paris.....	0 30 0 35
Red, Venetian.....	0 07 0 10
Patent Dryers, 1 lb tins.....	0 10 0 12
Putty.....	0 03 0 03½
Yellow Ochre.....	0 08 0 12
White Lead, gen. 25 lb. tins.....	1 80 2 00
" No. 1.....	1 60 1 75
" No. 2, less 74pc.....	1 40 1 50
" No. 3.....	1 20 1 25
White Zinc, Snow.....	2 25 2 35

NAVAL STORES.

Black Pitch.....	3 50 @ 4 00
Rosin, Strained.....lb	4 01 4 00
Clear, pale.....	5 50 6 50
Spirits Turpentine Imp.Gall.....	0 90 1 00
Tar Wood.....	4 80 5 00

OILS.

Cod Imp. Gall.....	0 75 @ 0 80
Lard, extra.....	1 10 1 20
No. 1.....	1 05 1 10
Linseed, Raw per gals.....	0 68 0 75
Boiled.....	0 72 0 80
Neats-foot.....	1 20 1 20
Olive, Common, Imp. Gall.....	1 05 1 45
Salad.....	2 11 2 20
" Pinta, cases.....	4 00 4 20
" Quarts.....	3 25 3 50
Seal Oil, Pale, Imp. Gal.....	0 85 0 95
Union Salad.....	1 20 1 20
Sperm, genuine.....	2 40 2 50

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## ACTION OF HYDROGEN PEROXIDE ON ORGANIC MATTERS AND FERMENTATIONS, AND ON ITS EMPLOYMENT IN SURGERY.\*

MM. Paul Bert and P. Regnard have studied the action of hydrogen peroxide upon various forms of organic matter and upon fermentations, and find that it possesses very remarkable anti-septic properties. All fermentation due to an organized ferment is immediately and definitely arrested by hydrogen peroxide, the ferment is killed, and even after the removal of the hydrogen peroxide by one of the substances which destroys it most rapidly, the fermentation does not recommence. The yeast of beer is in this manner killed instantly, although it possesses itself the property of decomposing hydrogen peroxide. Specimens of wine, urine, and milk, each containing a few drops of hydrogen peroxide, have been exposed for several months in open vessels without exhibiting the least sign of alteration, while other specimens of the same identical liquids, without the addition of hydrogen peroxide, placed beside them, were in a state of complete decomposition. Although organized ferments are destroyed by hydrogen peroxide, soluble ferments do not seem to be affected by it, saliva, diastase, the gastric and pancreatic fluids continue to act in solutions containing hydrogen peroxide. MM. Bert and Regnard have also studied the action of hydrogen peroxide upon various organic materials, including the albuminoid substances, and all the tissues composing the animal body in a healthy or pathological state. The results of their investigations may be summed up as follows:

1. Hydrogen peroxide, even when very dilute, arrests fermentations due to the development of living organisms, and the putrefaction of all substances which do not decompose it.
2. It has no effect upon diastase fermentations.
3. Dilute hydrogen peroxide is not destroyed by fats, starches, soluble ferments, egg albumen, casein, the peptones, creatine, creatinine or urea.

\*American Chemical Journal, from Comptes Rendus.

4. It is rapidly destroyed by nitrogenous collagens, by musculin, fibrin of the blood, and various nitrogenous vegetable matters.

5. This action is definitely arrested by a temperature above 70°. Putrefaction, however, leaves it entirely intact.

As it appeared from the powerful antiseptic properties of hydrogen peroxide that it might prove of value in surgery, experiments were made upon the point by MM. Pean and Baldy at the hospital of St. Louis, with very successful results.

This hydrogen peroxide, the solutions containing from two to six times its volume of oxygen, according to the circumstances of the case, was used, both externally, as a dressing for wounds, ulcers, etc., and also given internally in certain affections, in doses of from three to five grains, containing six times its volume of oxygen. As a result of their experiments MM. Pean and Baldy consider themselves justified in stating:

1. Hydrogen peroxide containing, according to circumstances, from two to six times its volume of oxygen, appears to be capable of advantageously replacing alcohol and carbolic acid.

2. It can be employed externally, for the dressing of wounds and ulcerations of all natures, in injections and in vaporizations, and internally.

3. The results obtained, even in the case of the largest operations, are, up to the present, in the highest degree satisfactory. Not only fresh wounds, but also old ones, proceed rapidly to cicatrization, and reunion by first intention of amputation wounds appears to be encouraged by this mode of dressing.

4. The general as well as the local state appears to be favorably influenced.

5. The advantages of hydrogen peroxide over carbolized water are its not having any poisonous effect nor unpleasant odor, while its application is entirely painless.

M. Bert calls attention to the fact that hydrogen peroxide for surgical use must be entirely neutral, while that obtained from the greater number of dealers in chemicals frequently contains a considerable quantity of sulphuric acid, so that its use would not be without danger.

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## THE BEST FORM OF ADMINISTERING PUMPKIN SEED.\*

BY L. WOLFF, M.D.

What is the best form of administering the seed of the pumpkin (*Cucurbito Pepo*)?

For the object of this query, to obtain in a pharmaceutical preparation of the seed of *Curcubita pepo* the best possible results in the most palatable and effective manner for the expulsion of

\*From the "Proceedings of the Pennsylvania Pharmaceutical Association," 1882.



tape-worm, it is absolutely necessary that we should be well acquainted with the drug itself and its proximate constituents, in order to ascertain to which of these it owes its peculiar tæniifuge power.

This property seems to be inherent not alone to the common pumpkin (*Cucurbita Pepo*), indigenous to our country, but also to other species of the cucurbitanceæ, such as *Cucurbita occidentalis* of the West Indies, and *Cucurbita maxima*, Duch., and others.

Pepo, though well known for ages as a domestic anthelminti and tæniifuge, was brought to the notice of the profession in 1845, by Brunet, who reported twenty-five or thirty successful cases of tænia treated with it.

Others have since then used this article largely for the same purpose, but only with varying success, as the action of any drug cannot be determined without a thorough knowledge of the principle or principles to which it owes its peculiar efficacy. These must be closely studied before a rule can be laid down for its use, with a view to its uniform action.

Pepo has been repeatedly examined and investigated by many able authorities, but the results have at all times been conflicting as to the nature of its active ingredients. Its general constituents have been uniformly established as fixed oil, starch, cellulose, pectin, and protein compounds. Free fatty acids, sugar, resin, and even a glucoside, have also been claimed to exist therein. To test this latter, I have made an extensive series of experiments, in order to be able to either verify or disprove them. As none of the former ingredients can be viewed as tæniifuge in its nature, and this drug itself is such in a marked degree, the inference is that a peculiar principle exists in it to which it owes its remedial property.

Dorner and Wolkowtch (1870) claimed to have discovered in pumpkin seed an alkaloid, which they propose to call cucurbitin (*cucurbita* ?) but which both as an alkaloid, as well as a glucoside, Kayplow (1876) has failed to establish. Slop attributes its action to the oil, of which he gives a description in the *Pharmaceutische Centralhalle*, but advises the use of an electuary of the seed as a tape-worm remedy.

Herard thinks its active principle resides in the kernel, and Lelievre in the gemmule.

Heikel maintains that it is contained in the menisperm, and, to prove it, has given this exclusively, with good effect. Of the resin extracted from it, he gave 75 centigrams in six pills, expelling the tape-worm. This amount would represent 17 grams of the green membrane or 250 grams of peeled seed. In further experiments, about 6 ounces of the perisperm, tegumentum, and testæ were given without result, while 1 ounce of the membrane surrounding the embryo expelled the parasite.

This membrane was found to consist of two layers, the outer of which contained a quantity of resin (one in seventeen).

As opinions of investigators on this subject are so much divided and with a view of presenting a definite answer to the query, I was led to experiment personally, going over the entire field in numerous experiments and observations.

While I found my results to correspond with the nature and quality of the general constituents, I am slightly at variance with Slop and Kapylow in regard to the oil. While I found it to be a glyceride of oleic, palmitic, and myristic acids, I could not detect at any time any free fatty acids in the recently dried seed; nor could I confirm the fractional solubility of the oil in alcohol, and must attribute their results to the spontaneous decomposition of the oil in old seed into fatty acids and glycerine.

While they assert that the expressed oil possessed tæniifuge properties, I have not been able to verify this; nor have I observed it in the oil of pepo, which was extracted with petroleum benzine, but found it markedly so in oil extracted with ether or chloroform.

My experiments for the separation of an alkaloid or glucoside have also been unsuccessful, and I must side with Kapylow in claiming an absence of either of these. I arrived, therefore, by exclusion to entertain the views of Heikel as to a resin forming the active principle of the seed, and extended my experiments in that direction. I exhausted a quantity of recently dried and well-comminuted seed with petroleum benzine, previously proven not to extract the active ingredient, and the residue was repeatedly treated with ether, chloroform, and alcohol. The product on evaporation of the menstruum was a soft resin of a greenish brown colour and acrid bitter taste, reminding of the oleoresin of male fern in that respect. Oil which had been extracted with ether or chloroform yielded, on shaking with stronger alcohol, a similar substance. This resin administered in 15 grain doses, certainly possessed tæniifuge properties, and I was thus led to regard it as the active principle of pepo. It would seem from this that stronger alcohol is the proper menstruum for preparations of this drug. As the resin, however, as well as the fluid extract, did not prove laxative in my observations, and the alcoholic strength of the latter besides would contra-indicate, in the doses required, its use for children, I examined the emulsion of the seed to determine if, and in what quantities, it contained the resin. I evaporated to this end an emulsion of the seed to dryness and treated it with stronger alcohol, which, after filtration, left on evaporation, a corresponding quantity of the resin, which had evidently been emulsified in the process.

I would, therefore, in answer to the above query, recommend as the most desirable and effective preparation for administering the seed of "*Curcubito Pepo*" for adults:

First. Fifteen grains of the above mentioned resin in pill form.

Secondly. One to 2 fluid ounces of the alcoholic fluid extract in broken doses and largely diluted; both of these taken fasting in the morning and to be followed two or three hours afterwards by a dose of castor oil; or better than either of these for children, an emulsion of 1 ounce of the recently dried and finely comminuted seed, and  $\frac{1}{2}$  ounce of granular sugar, with 4 ounces of water, in which preparation the natural oil acts as a mild laxative; this to be also taken in broken doses, following closely on each other after a fast of six to eight hours.

The electuary, formed by pounding the decorticated seed into a pulp with sugar, has proved with me not alone unreliable, but presented in many cases serious obstacles to deglutition.

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### AMMONIACAL EXTRACT OF ERGOT.\*

Take 10 parts of crushed ergot, macerate it for eight or ten hours with frequent stirring in 50 parts of cold water, containing  $\frac{1}{2}$  per cent. of strong solution of ammonia; then throw it upon a flannel strainer, and allow it to filter. Wash the ergot from time to time with more ammoniacal water, till sufficiently exhausted. The filtrate, which is somewhat turbid, is evaporated to 5 parts, any scum or fat rising to the surface being carefully removed. The extract when cool is treated with an equal volume of aromatic spirit of ammonia, and the product set aside until subsidence is complete; the clear portion is then decanted and the residue filtered through felt or flannel, washing the deposit with a little more spirit, so as to bring the volume of the extract to 10, 1 part fluid thus containing the soluble matter of 1 part solid of ergot.

In appearance this extract is much darker in color than the ordinary form, the odour is mainly ammoniacal, and the average specific gravity 1000.

A sample I have kept for nearly a year does not appear to have undergone any change. The dose is the same as the ordinary liquid extract.

In studying the above process it may strike some observers as somewhat curious to use ammonia as a solvent, and then to dissipate it by evaporation, but it must be remembered that the ammonia is not eliminated until its work has been accomplished, and what therapeutic action it might have exerted is compensated for by the addition of the aromatic spirit.

In the process of manufacture, whilst evaporation is proceeding, it will be noticed that not only albumen and coloring matter separate, but a considerable quantity of oil. The presence of this

\* Extract from a paper read by A. W. Gerrard, F.C.S., before the British Pharmaceutical Conference.

oil is accounted for by the formation of a soap between the ammonia and ergot fat during maceration, the soap remaining in solution whilst cold, but being decomposed by heat.

This extract, as regards its therapeutic value, has had a thorough trial in the obstetric department of University College Hospital, and has given general satisfaction, Dr. John Williams, one of the obstetric physicians, having requested it to be substituted for the ordinary extract in such mixtures as contain ergot.

To enter into a discussion as to why ammonia improves or increases the action of this drug is scarcely within the domain of pharmacy, and published therapeutic memoranda on this point are wanting. From inquiries I have made, it appears, as the result of numerous observations, that the ammonia develops a rapid action of the drug by acting as a nervine stimulant, which action is very useful during that period when the patient has to undergo that painful and trying ordeal for which ergot is so extensively employed. To this must be added the great solvent power of the ammonia, which ensures a most complete exhaustion of the active principles of the drug.

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## ON THE ESSENTIAL OILS.\*

BY DR. AUGUST BELOHOUBEK.

Freshly distilled oil of turpentine contains no oxidized products, and hence no resinous matters, for, owing to their slight volatility, they remain behind in the retort; while an oil that has been kept in open vessels absorbs oxygen from the air and hence contains a resin.

Various observations have forced us to the view that substances composed of carbon, hydrogen, and oxygen mix with other liquids—that is, mutually dissolve each other more easily the more similar they are chemically. The exceptions to this rule are very few.

If we apply this rule of the mutual solvent power of allied substances to the oil of turpentine recently distilled, we can predict that, being a hydrocarbon, it will dissolve easily in other hydrocarbons; and the more readily the more nearly the hydrocarbon series to which they belong are related to each other, and the less they differ in the number of carbon atoms in the molecule.

But how will it be with the old, oxidized, and hence resinous oils which contain but a few per cent. of resin. Such resin differs from the oil,  $C_{10}H_{16}$ , in containing one or two atoms more of oxygen, and one or two molecules of water, so that it is tolerably

\*Liqueur Fabrikant in Chemical Journal.

similar to the pure oil and soluble in it ; but it differs considerably from other hydrocarbons, especially if they contain but little carbon and comparatively more hydrogen in the molecule, and therefore do not readily mix with it. This supposition was confirmed by experiment. I selected as a cheap reagent the petroleum ether which boils at about  $104^{\circ}$  Fahr. ( $30^{\circ}$ C.), and is a mixture of pentanes,  $C_5H_{12}$ , etc. Fresh oil of turpentine mixes in all proportions with this naphtha, and the mixture remains clear, while lumps of resin separate from the old and oxidized oil.

This experience induced us to extend the experiments to other essential oils similar to turpentine, and it was expected that oil of lemon, of orange peel, and of juniper would act in the same way towards petroleum ether.

Experiment confirmed this expectation. Not merely the oils named, but many other fresh oils could be distinguished in this way from older oils, viz., the oil of aniseed, fennel, peppermint, mint, and rosemary. Beside these I also tried old *oleum caryophyllorum*, *carvi*, *macidis*, *cinnamomi*, *salviæ*, *serpylli*, and *thymi*, but could not compare the results with those of fresh oils of the same kind because I had none of the latter on hand.

I consider such experiments very useful, and recommend any one who has an opportunity, whether apothecary or oil manufacturer, to test the action of ether oils toward petroleum ether and publish his results.

The experiment is performed by dropping one drop of the oil into a dry test tube, and then a drop of naphtha, and observing whether the mixture remains clear or becomes turbid. After we add two, then three and more drops of naphtha, and can be certain whether a white precipitate or a milky turbidity, or even an opalescence results from the presence of a resin.

When old oil of anise was used it did not mix with naphtha, but the fresh oil was miscible in every proportion. Oil of orange gave a turbid mixture ; oil of lemon, the resin was deposited on the side of the test tube ; oil of fennel only partially dissolves when old ; oil of juniper forms white lumps ; oil of peppermint becomes turbid ; while oil of rosemary scarcely mixes at all. Fresh oil of turpentine, after standing open a week or two, becomes turbid. If alcohol is added to the oils the reaction will not take place.

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#### OLEIC ACID.\*

This is made from the so-called "red oil" of the makers of stearin candles. The other fatty acids are separated from the oleic by solidifying at higher temperatures, when they can be filtered out. But they are never completely separated, nor is it

\*Extract from a paper by Dr. Squibb in *Ephemeris* for November, 1882.

necessary they should be, since this oleic acid for medicinal uses does not aim at a high degree of chemical purity. The crude oleic acid is next washed with solution of sulphurous acid, and finally is repeatedly washed with water, and carefully filtered in the cold with the least practicable exposure to air.

It is then an oily liquid of the color of pale sherry wine, having a faint, peculiar, indescribable odor and taste, free from acidity. Its s. g. is .898 to .900, at  $15.6^{\circ}\text{C.} = 60^{\circ}\text{F.}$  It is thinner than the oils, and much more easily wiped off of surfaces without leaving them greasy. Applied to the skin, it wets it almost like water, and if very thinly applied it is so quickly absorbed that it seems as if it had evaporated like water; and it leave the skin as clean and free from greasiness as though it had been wet with water. The peculiar odor of the acid is much stronger when it is spread upon the skin than when in a bottle. It should be kept from the light and air as much as practicable, although it does not appear to rancidify as easily as fats and oils do. As it has not yet been determined how the oleates keep, it is very good practice to keep the oleic acid on hand, and from it make the oleates as they are required for use—not necessarily each time they are prescribed, but every month or two.

#### OLEATE OF MERCURY.

This is the oldest and, perhaps, the most important of the oleates, perhaps because it has been most used, and therefore its effects and uses are best known. As introduced by Mr. Marshall it contained six per cent. of oxide of mercury, and this strength is still the one most frequently used, but a strength of ten per cent. has also been largely used, and more recently one of twenty per cent., which latter should and probably will soon supersede the others. Either strength is easily made by simply putting together the yellow oxide of mercury and the acid in the cold, and waiting until the solution takes place, stirring occasionally. All heating should be avoided in making this oleate, even the heat of the combining elements being probably hurtful. Time and patience easily effects the combination, but even with the greatest care the weaker or more liquid preparations do not keep well. In a few weeks a film of metallic mercury shows itself at the bottom of each vial, and in a few months this film will represent about one per cent. of the mercury used. From this circumstance it has been the practice of the writer to always put up both the six per cent. and the ten per cent., with one per cent. excess of the oxide to compensate for this decomposition, so that the practitioner will really get the strength called for by the label if the preparation be not very old, and be well protected against heat and light. These strengths can, however, never be very accurate, because the decomposition though slow begins early, and probably continues indefinitely or until all the mercury is reduced. When made of the strength of twenty

per cent., however, this decomposition does not occur, or at least does not occur to any practically hurtful extent. Of a sample that had been made three years nineteen per cent. was soluble in ether, thus showing that it keeps well, while the others do not. It is a very soft solid, like very soft butter, but yet solid enough to prevent all circulation among its particles, and it is probably to this condition that its superior keeping properties are due. Because it keeps so well and the other strengths do not, it is the only oleate of mercury that should be used. Its greater strength is no valid objection to its application, as it is only necessary to apply so much less of it. Or if not easily enough controlled in that way, it can be diluted at the time of using to any definite strength with olive oil, or preferably with oleic acid.

No reduced mercury has ever been noticed in any well made oleate of this strength.

#### OLEATE OF ZINC.

A twenty per cent. oleate of zinc is not unfrequently spoken of and asked for of late, and a preparation is sold as such. But as a normal oleate of zinc only contains the equivalent of about thirteen per cent. of the oxide, such a preparation can only be a mixture of oleate and oxide. It is generally in the condition of a dry, soapy, granular powder, and not susceptible of easy application for absorption even in skin diseases, but only applicable as a surface powder. For appropriate therapeutic use as a zinc preparation it should not be stronger than five per cent. When of this strength it is a soft solid of proper consistence for easy application in diseases of the skin. Of this strength it is well adapted to become a very useful preparation, but as yet its uses have not been very definitely stated.

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#### CHILBLAINS.\*

Correspondents of the *British Medical Journal* have been giving their experiences on the treatment of chilblains. "M. D," says two winters ago he got many replies to an enquiry for treatment inserted in the same journal, but found none very useful. He thus summarises :—Liniment of aconite, recommended by Dr. H. L. Snow, relieving the itching, but did not cure the chilblains. Dr. R. Fullerton recommended equal parts of liniment of aconite, and oil of turpentine. Mr. C. E. Greenwood advises an ointment of lard and mustard to be rubbed in before a fire for 20 minutes. Very hot water was also recommended. Galvanism was recommended by Mr. A. D. Watteville. Dr. J. B. Sammut recommended 20 minims of tincture of arnica, in an ounce of rectified spirits, to be well

\*Chemist and Druggist.

rubbed in at night and morning with a piece of flannel. From anodyne amyl coloid, recommended by Dr. C. H. Lush, I did not derive any benefit. Dr. C. H. Hartt recommended the following:—Curd soap, ʒj., water, ʒiv.; dissolved by aid of heat, and add gum camphor ʒiv., rectified spirits ʒvj., essence of bergamot, 45 minims; lastly, add liquor ammoniæ fort, ʒvj. Sir Astley Cooper recommended strong solution of acetate of lead. Mr. W. Square recommended the internal administration of opium. He gave it as nepochin, with a little Epsom salt and syrup of ginger, night and morning. Dr. T. F. Pearse recommends nitrate of silver. He advised cold bathing, abstinence from alcohol, and large boots. Billroth (*Surgery vol. 1.*) recommends white precipitate ointment, tincture of cantharides and other remedies. "M. D." thinks the constant wearing of gloves out of doors increases the liabilities. He is himself in good health, out riding and driving all day long, in all weathers; and, in spite of all he can do, suffers considerable discomfort all the winter, if the weather is at all severe.

Mr. N. Grattan (Cork) says that Dr. Balfour recommends faradisation. He (Dr. Grattan) has used this treatment successfully in many cases during the last three or four winters. An electro-magnetic machine may be used. One rheophore should be applied directly over the chilblain, the other to any distant part of the body. The current should be used as strong as the patient can conveniently bear for from three to five minutes, and immediate relief will ensue. After using the current twice a day for two or three days the chilblain, if unbroken, will have disappeared. Broken chilblains are equally benefitted by this method, but the treatment must be more prolonged.

Mr. E. H. Hardwicke recommends anodyne colloid, made by Richardson, of Leicester. It is applied with a camel-hair brush for two or three seconds, and the chilblains disappear in less than two minutes.

Mr. J. Johnston (Dalkeith) recommends, from experience, the following:—R. Pulv. iodoform ʒij; thymol ʒss; olei eucalypt, glob.

i. Rub well in a mortar till mostly dissolved, and apply freely over the inflamed parts twice or thrice daily. He has found the application very useful in all forms of "frost-bite," especially if used early. When dry it is well to cover the parts loosely with cotton wool.

Mr. Thomas Peice (Manchester) has found good results from 2 drachms of nitrate of potash dissolved in 6 ounces of vinegar, well rubbed over the chilblain.

A Member declares the powder called pasma an excellent remedy for chilblains. It should be freely dusted on them with a puff, and some shot into the stocking before putting on. It is manufactured by Curtis & Co., of Baker Street.

Mr. S. Grose (Melksham) considers the nearest approach to



cure is brisk, vigorous, daily walking ; any other exercise is futile in those strongly disposed to chilblains. One of his friends, a lady who always suffers each winter, has been much relieved by taking one glass of porter after luncheon and dinner ; another by leaving off her habitual "tot." No tonics are of the slightest use ; but very many stimulant and anodyne lotions and ointments will temporarily relieve sting, and smart and swelling, only to recur again after the first time the part affected becomes cold. The disease is generally attributed to weak circulation ; but this certainly is not the whole cause. After 40 the rule is not to be further troubled ; yet circulation is commonly weaker than in youth. Mr. Grose has long passed 40, but suffers as much as ever from chilblains.

Dr. E. W. Alabone declares that the following prescription to be almost infallible in curing unbroken chilblains :—One egg well beaten ; diluted acetic acid 8 ounces ; spirit of camphor, 1 ounce ; oil of turpentine,  $\frac{1}{2}$  ounce ; tincture of arnica, 1 drachm. The mixture must be well shaken, and, after the feet or parts affected have been soaked in hot water and dried, the lotion must be rubbed in, and allowed to dry before the fire. As a rule one application is sufficient.

W. B. B. has found the following liniment very useful in the treatment of chilblains :—Venice turpentine, 2 drachms ; castor oil, 1 drachm ; collodion, 1 ounce. This liniment is to be painted on frequently with a camel's hair brush. If the chilblain be broken he orders an ointment of camphor 2 drachms, vaseline 1 ounce, to which may be added with advantage 10 minims of chloroform.

W. McM. advises the use of the following application, recommended by Majolin :—Dissolve together balsam of Peru  $\text{ʒss}$ , and rectified spirits of wine  $\text{ʒss}$  ; then add dilute hydrochloric acid  $\text{ʒss}$ , with a compound tincture of benzoin  $\text{ʒss}$ . A little of this liniment is to be occasionally rubbed into the affected part, or a piece of lint moistened and applied. This can only be used when the cuticle is not broken. Should the chilblains be "broken," Turner's cerate is a very good dressing.

Dr. Alfred Wise (Wisen) finds the most effectual treatment is to paint the inflamed part every night and morning with a liniment consisting of 2 drachms each of soap liniment and belladonna liniment, and 4 drachms of liquor epispasticus. Care must be taken not to use this too frequently, or a blister will result. Should the intense itching not be allayed after a few trials, he paints the chilblains with a solution of nitrate of silver (gr. 3 0 to the ounce), until they become blackened. Those subject to chilblains should avoid tight boots and kid gloves, getting the feet damp, or allowing them to become intensely cold. In cases of vesication, poultices may be applied at night, and iodoform ointment (30 grains to an ounce) during the day.

W. S. advises plunging the feet or hands, whichever may be

affected, into water, as hot as can be possibly borne, keeping them there for half-an-hour, renewing the hot water ; then going to bed, wrapping up the part affected in hot flannels. In the morning the intolerable itching will have quite disappeared. The patient must wear cork soles in his boots, which must be stout and large ; and woollen mits on his hands to prevent the recurrence of such unpleasant visitors.

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## THE MYSTERIES OF METALS.

Notwithstanding the wonderful progress, says an exchange, that has been made during the last half century in the constitution and working of the useful metals, there is yet a vast deal to be learned. The metals, when pure, are commonly supposed to be simple elements, yet there are some reasons for supposing that it may be proved that at least some of them are compounds. Even the great Faraday gave utterance to the thought that the dreams of the alchemist might yet be realized—that gold and other metals might be found to be compounds, and that means might be devised whereby those compounds might be separated, and afterwards so differently reunited that the baser metals might be converted into precious. The changes which are wrought in iron and steel by converting, annealing and hardening processes are far from being understood by the most advanced metallurgists of the present day. The mysteries of hydrogen gas and its intimate relations with iron are as much a puzzle as they were fifty years ago, and the theory advanced by Graham, that hydrogen is a metal, is still maintained by many chemists.

It is only a few years ago that absolutely pure iron became known to scientists, and it is now shown to be a metal almost as "unstable as water," and still found in the laboratory as a great curiosity. What had previously been known as a pure iron was shown by Jacobi to be a compound of iron and hydrogen. He first separated the two so-called elements. During the process the iron increased in volume, changed from a dark to a silver-white substance, very ductile, and so soft as to be nearly as readily cut as lead. The experiment proved that hydrogen played an important part in hardening and tempering—as much so as carbon—but how or why none know to this day. It is found that much more difficulty is experienced in rolling and otherwise manipulating gold in a factory where much electricity is generated by the action of machinery than in a room where no machinery is in operation, and where, consequently, frictional electricity is absent. The trouble is manifested in a disposition of the edges of the plates of thin bars to crack. Many other peculiarities, already known, might be men-

tioned, and there is no doubt that closer observation will largely increase the number of curious and yet inexplicable phenomena connected with the working and general characteristics of the metals, both useful and precious.

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## THE POISON OF MUSHROOMS.

Prof. Roufick, of Breslau, has lately made experiments on the common mushroom, of which the following published in the "British Medical Journal," are the results: All common mushrooms are poisonous, but cooking deprives them, more or less, of their poisonous qualities. The repeated washing with cold water, which they usually undergo to clean them, takes away a portion of the poison, and boiling does the rest; but the water in which they have been boiled is highly poisonous, and should be carefully gotten rid of. Experiments made on dogs showed that if dogs ate one per cent. of its own weight of raw mushrooms it fell sick, but recovered; if it ate one and a half per cent. the poison has a more violent but not fatal effect, and if it ate two per cent. it was inevitably fatal. The water in which mushrooms had been boiled was far more poisonous than even the raw mushrooms, while the mushrooms thus boiled could be taken without hurt to the amount of ten per cent. of the weight of the dog's body. Washing with cold water does not remove all the poison, so that mushrooms thus prepared are poisonous when taken in larger quantities. Dried mushrooms are still dangerous for from twelve to twenty days, and also the water in which they have been boiled. They require to be dried for at least a whole month, and are only really safe after four months' drying. —*Chic. Med. Review, Oct. 1 in Am. Jour. Pharm.*

## ACTION OF GUM ON THE FORMATION OF PRECIPITATES.

It is known that the presence of organic matters in saline solutions will in some cases prevent the formation of precipitates, and a communication from Messrs. Lefort and Thibault (*Jour. de Pharm.*, [5], vi., 169) appears to show that a substance commonly used in dispensing, gum arabic, is capable of affecting the formation of precipitates to an unexpected extent. In operating under certain conditions these chemists have found that in the presence of gum precipitates of metallic sulphides are not formed in dilute solutions (one-tenth of an equivalent per litre). Metallic oxides behave similarly in more concentrated solutions, corresponding with their greater solubility in water. The same result was observed with mixtures of neutral phosphate of ammonia and chloride of calcium, nitrate of uranium and ferrocyanide of potassium,

and perchloride of iron in dilute solution and ammonia. But what is perhaps of even more importance is the influence of gum arabic in the case of alkaloids, solutions of 1 in 1,000 of quinine, cinchonine, morphia, strychnia, brucia, and veratria not giving in the presence of gum a precipitate with phosphomolybdate of ammonia, the double iodide of mercury and potassium, or tannin. On the other hand, iodide of lead, iodide of mercury, sulphate of barium, and carbonate of lead are precipitated from solutions containing gum, as completely, though more slowly, than from distilled water. This action of gum may be profitably taken into consideration by a respected correspondent of this Journal who, a short time since, criticised the recommendation to use gum mucilage in dispensing. —*Pharm. Jour. & Trans.*

### LIQUOR POTASSÆ AS SOLVENT FOR GUM RESINS.

According to Morris, solutions of the gum resins in liq. potass. recommend themselves for their elegance and economy, while they are generally very effective. For instance, the dilution of ammoniacum and liq. potass. with water is perfectly clear, whereas a tincture produces an opaque mixture on dilution. The alkaline solutions of aloes, catechu, and kino are very cheap and elegant coloring mixtures, a few drops giving a deep tint to half a pint of water.

The quantity of liq. potass. best adapted to each gum resin will be found as follows:

Aloes .....	1	part to 15 liq. potass.
Ammoniacum .....	1	" " 4 " "
Assafœtida .....	1	" " 15 " "
Catechu .....	1	" " 10 " "
Guaiaicum .....	1	" " 7 " "
Myrrh .....	1	" " 5 " "
Opium .....	1	" " 10 " "

—*Druggist's Ready Reference*

**TESTING INK.**—It often happens that the forger uses a different ink from the one with which the bulk of the document has been written. By applying various chemicals the forgery, however skillfully executed, may be detected. The best way to proceed is as follows: Get nine half or one ounce vials and fill, separately, with: 1. Dilute sulphuric acid; 2. Concentrated muriatic acid; 3. Dilute nitric acid; 4. Solution of sulphurous acid; 5. Solution of caustic soda; 6. Concentrated solution of oxalic acid; 7. Solution of chloride of lime; 8. Solution of tin crystals; 9. Solution protochloride of tin. Take nine quill pens, each one for its particular reagent. Now, with a rule draw lines *crossing original and suspected portions*; the difference will show itself at a glance.—Partly from *Chemical Journal*.

## THE KOLA-NUT TREE.\*

BY THOMAS CHRISTY, F.L.S.

I introduced the Kola Nut (*Sterculia acuminata*) into England about eight years since, and it has lately been subjected to European analysis,† and the results obtained made it exceedingly likely that a large European demand will soon exist. It has been found to contain the same active principle, viz., caffeine, and more of it than the best coffee, and to contain also the same active principle as cacao, but less fatty matter. Possessing the same qualities as these favorite beverages, it only needs proper treatment to develop a special flavor, and it would then probably be able to compete successfully with those beverages. The nuts are used to form a refreshing and invigorating drink throughout a large portion of tropical Africa, their use being said to support the strength, allay inordinate appetite, assuage thirst, and promote digestion, and to render those using them capable of prolonged fatigue. The negroes prefer them to tea or coffee, and when they can obtain Kola nuts, will not touch coffee. Dr. Daniell says of them: "It would be difficult to find any product which constitutes such an important article of commerce in Soudan as the Kola nut." Wherever the negro has been transplanted to a foreign country he has taken the Kola nut with him.

As a medium of exchange for the products of Central Africa no article could be more advantageous, and on this account alone the tree will well repay cultivation. Moreover, if once introduced as a beverage in civilized countries, the demand for it would soon become enormous.

I have recently been informed by Mr. Espeut, a well-known sugar planter of Jamaica, that the negroes use the Kola nut as a remedy for drunkenness; that swallowing a single nut, ground up and made into cream or paste with water or spirit, no sign of intoxication remains half-an-hour afterwards.

Confirmatory evidence of this property in the Kola nut is given by a surgeon, Mr. Papefo, who tells me that alcoholic drinks do not produce intoxicating effects when the Kola nut is eaten at the same time.

It appears, therefore, that the craving for drink, which is such a strong incentive to drunkenness, may be subdued by the use of this valuable stimulant and tonic, as after chewing Kola nut great disinclination is felt to all forms of alcohol. It has also been found to possess a beneficial action on the liver, its continual use preventing attacks of despondency, to which negroes are peculiarly

\* Chemists' Journal.

† See "New Commercial Plants," Nos. iii and vi.

liable. Dr. Daniell records a case of this kind, in which the Kola nut put a stop to an epidemic of suicidal mania, which threatened at one time to depopulate the estate on which it occurred.

It is also used by the natives when in a low state of health, suffering from the skin cracking and peeling on the hands and feet.

I have just received from a native gentleman on the west coast of Africa a fair quantity of fruit in splendid order, as fresh as if just gathered from the tree.

Planters will be able to send them off for seed at once to their estates.

Some have been sent to the leading medical men in London for further experiment, and I am endeavoring to ascertain the best plan of preserving their medicinal properties.

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## Editorial.

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### PROFESSIONAL ETHICS.

One of the most outrageous attempts at competition has been brought before our notice by a correspondent, who sends a poster largely circulated in Napanee; emanating from a quarter, which, of all others, seemed most unlikely. The professional dignity of the medical profession has been much vaunted, and, on the whole, very carefully guarded; but, in this instance, it has been so grossly violated that a quick and severe punishment should be meted out to the offender. We feel sure that the medical societies and the medical journals—the guardians of medical ethics—will side with us in the matter, and while repairing the damaged reputation of their own profession, mitigate in some degree the injury being done to the legitimate practice of pharmacy.

The publication alluded to is herewith reproduced entire:

COME ONE!! COME ALL!!

From 10 to 20 per cent. saved if you will buy your goods from  
R. B. CLARK, M. D.,

DEALER IN

DRUGS, GROCERIES, FANCY GOODS, &c.

The quotations given below will fully convince any of this fact.

Condition Powders	10 to 20 cts.	per lb.
Castile Soap	15	do.
Castor Oil	15	do.
Cream Tartar, pure	40	do.
do grocers	30	do.
Candle Wick, 3 cts.	per ball, 2 for 5c.	
Resin,	5 cts.	per lb.
Rice,	5 cts.	per lb., 6 for 25 cts.
Madder,	15 cts.	per lb.
Alum,	3	do.
Extract Logwood,	15	do.
Blue Vitriol,	10	do.
Epsom Copperas,	3	do.
Epsom Salts,	5	do.
Oil Cake,	2	do.
Venetian Red,	3	do.
Yellow Ochre	3 and 4	do.
Sal. Soda,	3c.	per lb. 2 lbs for 5c.
Whiting	1 and 2 cts.	per lb.
Bath Brick,	5	do.
Mixed Bird Seed,	7	do.
Pain Killer,	10 to 15 cts.	per bottle.
Pills,	10 to 18 cts.	per box.
Radway's Ready Relief,	18	per bottle.
Perry Davis' Pain Killer	15	do.
Cholera Syrup,	15	do.
Blakeley's Liniment	12½	do.

St. Jacob's Oil,	40c.	per bottle.
Electric Oil,	15 to 18c.	do.
Worm Candy,	10 to 18 cts.	per box.
Soothing Syrup,	18 cts.	per bottle.
Cough Syrup,	10 to 18	do.
Silver Gloss Starch,	10 cts.	per lb.
Ball Blue,	12	do.
Baking Soda,	3	do.
12 lbs. Light Brown Sugar for	\$1.00.	
10 lbs. Granulated Sugar for	1.00.	
5 lbs. No. 1 Japan Tea,	1.00.	
1 lb. No. 1 Japan Tea,	45 cts.	
German Cologne,	18 cts.	per bottle.
Lubin's Perfume, genuine	50c.	do.
Toilet Soap, from 2 to 7 cts.	per cake.	
Lamp goods and Lamp Chimneys at	prices never dreamed of before in	this section.
Axle Grease, per box,	8 cts.; Patent	
Medicines, \$1 bottles from	65c. to	85c. per bottle.
Purses, Combs, Brushes, Chamois,	Toilet Soaps, Vases, Jewellery and	Christmas Goods at reduced prices
	for Cash.	
American Coal Oil same price as	Canadian Oil.	

### Paints, Oils, Glass and Putty Cheaper than the Cheapest.

GENTLEMEN, I mean business and will carry out everything I insert or agree to do. I mean to bring this line of business to the bottom standard in prices, and give customers goods at a fair value and do not ask the Dutchmans's per cent. off people. Just call and be convinced. Courtesy and every attention paid to waiting on customers. Thanking you kindly for past favors and soliciting a continuance of the same, I remain yours faithfully.

R. B. CLARK, M.D.

Remember the place, 2 doors East Tichborne House, opposite Lennox Hotel, Napanee, Ont.

On consulting the Medical Register we find that the author of the above is a legally qualified medical practitioner, who obtained his degree in 1866, and was registered in 1871. To the honor of the pharmaceutical body be it spoken that his name does not appear on the Roll of Chemists, and he therefore carries on business under the exemption clause of the Pharmacy Act.

Anyone acquainted with the cost of genuine drugs will at once see that the profits from an ordinary business conducted on a scale of prices like the above, would not afford bread and water to the vendor, but imply actual loss. Perhaps the doctor's practice will stand it, but why this unprovoked attempt should be made to de-

stroy the business of a class who are at the best ill paid, we are altogether at a loss to discover.

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FORTY-SEVEN candidates entered for the Examinations which commenced on Tuesday, Jan. 30th. The result will be made known at the Council Meeting which takes place on Wednesday, February 7th.

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## Editorial Summary.

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"OLIVE BUTTER," now advertised in many of the grocer' shops in this city, is made from cotton seed oil.

A PHARMACEUTICAL Association has been formed in the Black Hills. Dakota. The organization has its head quarters at Deadwood.

INK STAIN paper is made by soaking blotting paper in solution of oxalic acid, and drying. Blots absorbed by this paper are said to be completely obliterated.

THE proportion of druggists to population in Toronto is over one to a thousand. This is double the number allowed by law in some continental countries.

A STATEMENT that lemon juice may be preserved by heating to 150° and bottling hot might perhaps be turned to good account for preserving lime juice.

SOAP SHEETS, made by covering paper with a thin layer of soap are the latest novelty for travellers. They are bound in small compass, as books, and a leaf or two will produce a good lather.

A new edition, from the house of Messrs. J. B. Lippincott & Co., of the United States Dispensatory, is promised for this month. The work has undergone a complete revision under Messrs. Wood, Remington & Sadtler.



For detecting cotton seed oil in olive oil Mr. C. Marie adds to the suspected sample an equal bulk of nitric acid of 40°. On being agitated the mixture of adulterated oil becomes of a coffee and milk color more or less dark.

ARNO BEHR finds that glucose may be crystallized readily from its concentrated aqueous solution by introducing nuclei of anhydrous grape sugar. This discovery may prove of considerable interest to cane sugar adulterators.

A GOOD idea has been carried out by a maker of chemical glassware. A small oblong space is roughened or ground on beakers and such like vessels used for chemical solutions, thus providing a surface for labelling with a lead pencil.

IT is asserted by F. De Korab that *helenin*, a crystalline principle contained in the root of *inula helenium*, is a poison for tubercular bacteria. Infected matter, otherwise active, failed to produce tuberculosis after being kept in contact with helenin.

A DRUGGIST'S assistant in Berlin, Germany, was fined 300 marks, or 20 days' imprisonment for dispensing spirit of ammonia instead of solution of bicarbonate of soda. The first dose of medicine resulted in some personal injury to the patient, but nothing apparently very serious.

DR. KOCH says that "the only substances worthy of the name of disinfectants are chlorine, bromine, iodine, corrosive sublimate, and perhaps potassium permanganate and osmic acid." It may be presumed that the learned doctor means by the term disenfectant an antiseptic capable of *destroying* germs.

THE *Quinologist* calls attention to a statement in a medical journal that milk is an excellent vehicle for the administration of quinine. When a grain of the sulphate is dissolved in an ounce of milk the bitterness is scarcely perceptible. Five grains in a tumblerful causes no perceptible disagreeable taste.

IN speaking of the danger of tuberculosis being communicated by the milk and meat of tuberculous animals the Imperial Health Officer of Vienna regards it as doubtful whether boiling or roast-

ing eradicate the germs of infection. He also thinks that the infection from these sources is quite as common as hereditary taint.

"Good Templars' Sparkling Champagne," largely sold for the use of teetotallers in England, has been recently analysed and found to contain 25 per cent. of proof spirit. Of three samples of "non-alcoholic" sacramental wine analysed, one contained 18 per cent. of proof spirit, another 10 per cent., while the third was as represented.

SOME experiments detailed by Mr. J. D. Forbes in the *Am. Jour. Pharm.* to decide whether the potato beetle, *Doryphora decemlineata*, contains cantharidin, gave negative results, but by treatment with chloroform and carbon bisulphide a similar principle was extracted which produced irritation, and, after a time, slight vesication.

TINCTURE of rhubarb, U.S.P., deposits considerable sediment, which has been made the subject of a paper by Mr. E. C. Maxcy, presented to the Massachusetts College of Pharmacy, and reproduced in *New Remedies*. After many trials with various menstrua the author obtained the best results by employing a mixture of 8½ ounces of alcohol, 2½ of glycerine, and 3 ounces of water. Tinct. rhei U.S.P. contains only rhubarb and cardamons.

A FACTITIOUS glycerine, sold as pure by an Austrian firm, is noticed by a journal of that country. On examination the article was found to be composed of about 12 per cent. of chloride of magnesium, 52 per cent. of glucose and dextrin; and the balance water. The magnesium salt, might be, of course, readily detected by its bitter taste, and evaporation would yield a friable mass. We do not see how such an article could pass in trade.

A RESIDENT of Huddersfield, England, suffering from lead poisoning from water conveyed in leaden pipes, recently brought an action against the corporation of that town for failing to supply wholesome water, and obtained an award of £2,000 damages, but the main question whether the corporation is bound to supply wholesome water has yet to be argued in a higher court at London. If this point is decided in the affirmative the award will be given.

THE *Chemist & Druggist* calls attention to an item in the *Mark Lane Express* to the effect that powdered charcoal mixed with the food of sheep and pigs, in the proportion of about three pints to about a bushel of bran, administ red with other food, and given every other morning, is a reliable preventative of liver rot, and other kindred diseases. The efficacy of the remedy is certified to by several large stock farmers. It is suggested that country chemists make a special line of powdered charcoal for this purpose.

HANS M. WILDER, in the *Druggists' Circular*, proposes a formula for making orange flower water from oil of neroli petale. Three or four drops are put upon a peice of filtering paper, three inches square, and agitated in a bottle with four fluid ounces of water, temp. 100° F. Warm water is added to a wine pint, and the whole filtered, when cold. This is said to yield a fair product, but not so good as the distilled article. For flavoring purposes, the addition of two fluid drachms of rose water to the pint is recommended as an improvement.

In some "Oriental Notes" by Professor Landerer, of Greece, in the *Am. Jour. Pharm.* it is said that in Abyssinia the price of a civet cat is from 2,000 to 3,000 piastres, of which 500 to 1500 are for the skin. The animal is caught by means of snares and kept in a cage, when the civet is removed, by means of a small spoon, from the pouch between the anus and genitals. It is also found adhering to the trunks of trees from the cat rubbing itself upon them. The civet is a thick fluid, and is put into the horns of goats, or, for the retail trade, in small tin boxes.

PROFESSOR LANDERER also says in the above named article that considerable trade is being done in the slags left by Pericles, some 2,300 years ago, at the silver mines of Laurium. It appears that Pericles was not a very clever metallurgist and left in his fluxes 4 to 14 per cent. of argentiferous lead, containing from 500 to 1,200 grams of silver to the ton. The accumulation of slag began to attract attention in 1863 and is now being energetically re-worked.

SOLUBLE gelatine bougies are made by Mr. J. C. Martin, apothecary in the New York Hospital, (*Druggists' Circular*) by

softening the best French gelatine in water, squeezing out as much water as possible, adding glycerine in the proportion of four parts to five of gelatine, melting by a water bath, allowing the solution to cool somewhat, adding the medicinal ingredient, and pouring into the grooves of a pill machine and cutter, previously oiled. The cutter and machine are then placed in contact, and the excess of gelatine is squeezed out. The cylinders, when cold, can be trimmed, and, if necessary, lengthened by heating and pressing together.

DR. W. MURRELL, (*London Medical Record*), says the B.P. dose of tincture of aconite—5 to 15 minims—is absurdly large, and no one with any regard for his patient's safety or his own reputation would ever think of giving it. Small doses, frequently repeated, are safer and better. Half a drachm of the tincture in a four ounce bottle of water—a teaspoonful every ten minutes and hourly afterwards, for some hours, is the plan recommended by the author. Dr. Squibb's statement that aqueous solutions containing aconitia quickly decompose and become inert should be borne in mind in this case, although this suggestion is not made by Dr. Murrell, and possibly is not much regarded by practitioners generally. If it is correct its practical bearing is most important, and we think demands further test.

At a meeting of the Liverpool Chemists' Association, Mr. F. O. Brown read a paper on the action of glycerine on some ferric salts, from which it appears that mixtures containing ferric salt—as perchloride—glycerine, and water, rapidly change, especially if exposed to light and air, most of the iron being reduced to the ferrous condition. Mixtures of a drachm and a half of either tinct. or liquor ferri perchlor, six drachms of glycerine and water to 6 ounces, loosely stopped in bottles and put in a strong light, became pale in color and scarcely gave any traces of ferric salt, though both the tincture and liquor had been previously tested and found to contain no iron in the ferrous state. This explains a change that no doubt frequently takes place in mixtures of this kind, and will also account for different therapeutical action.

IN SUPPORT of the position taken on aconite preparations by Dr. Squibb, *Ephemeris* for January contains the particulars of a

recent case of poisoning in Germany, in which a medical man died from the effects of a dose of 3 or 4 milligrams of aconitine nitrate; the preparation of Petit of Paris being substituted for that of Friedlander, which was intended to be used. A post mortem and analysis failed to prove conclusively the presence of aconitine, either by chemical or physiological tests. The aconitine of Petit was found to be at least eight times stronger than that of Merck, and that of Merck 20 or 30 times stronger than that of Friedlander. It is also stated on the authority of Gubler (*Codex Medicamentarius*) "that the pharmaceutical preparations properly made from the *aconitum napellus* are much more uniform than aconitine or its salt."

THE relative value for anæsthetic purposes of ether prepared from pure alcohol and methylated spirit is a point very important to decide, as indeed all questions relating to anæsthetics. In Canada nearly all the ether is prepared from methylated spirit, a very small quantity of the alcohol ether being imported, chiefly from the laboratory of Dr. Squibb. Between the prices of the products there is a great discrepancy, one being sold at about fifty cents per pound while the other commands four times this amount. Dr. H. Bendelack Hewetson, surgeon to several institutions in Yorkshire, Eng., has been making experiments, and, as a result of much experience, says that methylated ether is the best and cheapest anæsthetic in use, producing less sickness and laryngeal spasm than ether from pure alcohol. This is very satisfactory, especially to Canadian patients.

THERE have lately been many attempts made to supply apparatus to take the place of want of skill and experience in the operation of percolation. We have scarcely got rid of the so-called Rosenwasser percolator before another appears upon the scene; this time the invention of a pharmacist of North Carolina, and, of course, patented. It consists of an ordinary cylindrical percolator with all the joints made air-tight by stoppers and rubber gaskets. The upper part of the cylinder—that is the part which would be above the packed drug is enlarged and fitted with a tube connecting with a rubber bulb, like that used for syringes. The idea is that if the operator does not possess any skill, and the percolate will not run, air can be forced in by means of

the syringe, and by the increased tension the menstrum will be forced through the packed drug. Wonderful!

MARGARINE or butterine is now very largely manufactured in Scotland. The sole basis is tallow, of which an ox will yield about 56 pounds, and a sheep 7 or 8 pounds. It is cut up by machinery, crushed, rendered by steam, with a trace of acid to help the clarification. It is then strained and allowed to cool slowly, then folded in clean linen cloths and subjected to the hydraulic press. The oleo-margarine is thus pressed out, and "pressed tallow," principally stearine, remains in the cloths. It is sold to candle makers by whom it is distilled yielding stearine and glycerine. The oleo-margarine is worth about 70 shillings a hundredweight and is mainly exported to London, Holland, and Belgium. It then falls into the butterine makers hands, when it is churned up with sour milk, colored with annatto, solidified by being placed in tubs of pounded ice, and formed into rolls or firkins as required. The market price ranges from 98s. to 62s. per cwt., and the retail price from 10d. to 1s. 2d. per lb. The most scrupulous cleanliness is used throughout all the processes, and there seems to be nothing, save prejudice, to prevent the butterine coming into general use.

MR. R. ROTHER contributes a very lengthy paper on ferrous citrate to the January number of the *American Journal of Pharmacy*. The greater part of the paper is taken up by theoretical considerations which are not of general interest, but the mode of preparing ferrous citrate, and the double salts with soda, may be reproduced with advantage. The ferrous salt may be made by heating together, until reaction ceases, 56 parts of very fine iron filings, 210 parts of citric acid, and 1,500 of water; supplying the latter as evaporated. The sodioferrous citrate is prepared by adding 84 parts of hydrosodic carbonate to the above solution. Sodioferrous citrophosphate is formed by adding to the preceding product 105 parts of citric acid, and 179 parts of sodium phosphate. In all cases filtration is necessary. It is stated that ferric citrate may be obtained by oxidizing ferrous citrate by heating it to dryness with nitric acid; in the proportion of 45 parts of acid to the quantity of solution produced by the first process above-mentioned.

A WORD to apprentices about the use of tobacco. In common

with many other observers we have frequently remarked the evil effects produced by tobacco on those whose physical and mental development has not been complete, and firmly believe that the use of the weed is very injurious to boys under age. In adults the effects are sufficiently marked, as we can personally testify, but by no means so severe as seen in the young smoker. Some of the surgeons connected with the U. S. Naval Department have lately reported on the the subject, and, as a result, tobacco has been interdicted in the West Point Military Academy, the Naval Academy at Annapolis, and many other institutions. The conclusions arrived at are that (1) Tobacco retards the cell change on which the development of the adolescent depends; (2) it leads to impaired nutrition of the nerve centres; (3) it is a fertile cause of neuralgia, vertigo, and indigestion; (4) it excites the optic nerve, producing amaurosis and other defects of vision; (5) it causes a trembling hand, and an intermittent pulse; (6) it develops irritability of the heart. These are charges sufficiently grave to prevent anyone learning to smoke, or cause him to cease cultivation of a habit which is by no means easily mastered in after years. The lesson for boys is—Don't smoke; to smokers—Give up the habit.

FROM a study of the plants yielding Japanese and Chinese oils of peppermint, Mr. Holmes, (*Pharm. Jour. & Trans.*), concludes that the Chinese peppermint agrees with a specimen of *Mentha Canadensis*, var *glabrata*, sent to him by Professor Gray, and that if the latter be a typical specimen, he considers that it should be referred to *M. arvensis* var *glabrata*. The Japanese plant he thinks should be designated as *M. arvensis* f. *piperascens*. *M. piperita*; *M. arvensis*, var *piperascens*; *M. Canadensis*, var *glabrata*; and *M. incana*—a Bombay plant—yield so-called oils of peppermint, and the query suggests itself whether the oils of these species differ among themselves as has been shown to be the case with the two first named. If so, is this difference dependant on development, climate, soil or sex? and is the oil in each case a mixture in which one ingredient is present in variable quantity in the different plants? Again, do the oils of spearmint and peppermint bear any chemical relation to one another? and which plant is most valuable as an oil producer. Mr. Holmes suggests these interesting questions, but leaves their solution to those whose pursuits lay in these directions.

AN item in the last issue of the *Chemist & Druggist* suggests great possibilities to a pushing man ready to introduce a new article in the household necessity line. We feel assured that there is money in it, if rightly handed, and while the introducer would thereby climb to fortune, he would, at the same time, supply a boon to families with weakly and crying offspring, and to newly married couples prove a perfect "matrimony made easy." The subject of sickly and peevish infants, prone to tears, had been brought before Dr. Tavernier—physician to the Maternity Hospital in Paris—so frequently and forcibly, that after a thorough study of anodynes, commencing with paregoric and running through all the grades and epochs of Dalby and Mrs. Winslow, to the later discoveries in extract of celery seed, he failed to reach a satisfactory conclusion and turned to pastures new. Guided perhaps by meditations on a hot bed, or from a consideration of the steam hen, he conceived the brilliant idea of an incubator, and at once carried out the thought by providing a box, covered with a glass slide, furnished with a soft woollen bed, and kept at a temperature of 86°, by suitable heating apparatus. A prematurely born infant of miserable physique, but of magnificent voice, was made the subject of experiment; on the second day it ceased to cry and slept continuously for 60 days, except when taking nourishment. This experiment was followed by others on 360 infants who were in the institution on Feb. 10th, last. Their average weight was then 16 pounds, and average age 8 months and 3 days, but after remaining in the incubator for six months—only one dying meanwhile—the average weight was 24 pounds, "and an ordinary observer would have said that the youngest was at least three years old. All learned to walk within a week after leaving the incubator, and most have since learned to talk."

THE complete exhaustion of nux vomica is made the subject of a paper by Mr. R. Rother in the *American Journal of Pharmacy* for January. The author assumes what we think all are prepared to admit—that tincture of nux vomica does not by any means represent the total alkaloidal value of the beans employed. The drug contains a great proportion of mucilaginous or gummy matter that prevents the penetration of an alcoholic menstrum, unless very weak, when the sparingly soluble igasurates of strychnia and



brucia are not dissolved. Even when the powdered nux is very fine it is claimed that the exhaustion is not perfect. Mr. Rother tried various means to overcome this difficulty, and, at last, hit upon the expedient of using a dilute solution of common salt mixed with an equal volume of alcohol. This menstrum appears to permeate and extract the drug very readily. It probably decomposes the igasurates, forming the chlorides of strychnia and brucia, and the igasurate of sodium. For eight Troy ounces of powdered nux vomica six drachms of salt are dissolved in one and a-half pints of water, and added to one and a-half pints of alcohol. The drug is moistened, and percolated very slowly, being allowed to macerate twelve hours, when thoroughly saturated with liquid. Two pints of tincture are recovered. Of course this is intended to represent the U.S.P. preparation, but if what the author says regarding more complete exhaustion is correct, it would be correspondingly stronger than it should be. There is another point that does not seem quite satisfactory and we should like to hear what Mr. Rother has to say on the subject. It is stated that "when this solution is diluted with water a retrograde decomposition sets in, the igasurates of the alkaloid are precipitated, and sodium chloride remains in solution." A precipitate of this kind in a bottle of medicine would not be desirable, and would, in our opinion, render this preparation altogether ineligible.

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## Correspondence.

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*To the Editor of the Canadian Pharmaceutical Journal :*

DEAR SIR,—In consequence of a fall, resulting in a sprain of the knee-joint, I was unable to attend the two last meetings of the Council of the College of Pharmacy.

I am sorry to observe from some letters which have appeared in the JOURNAL, that some friction had occurred among some members at the meeting last August, and more since that time ; which is to be regretted, as the success of the College must necessarily much depend on the hearty co-operation of those appointed to conduct its affairs. Differences of judgment on some points are almost sure to arise in the Council, as in all deliberative bodies composed

of men of independent minds, which can only be settled by the minority submitting to the majority. At the same time, remembering that the decision of a majority is not necessarily a correct one.

In regard to the majority decision respecting an adjournment, which seems to have originated the friction referred to, the reasoning of the majority can easily be supposed as follows: "We leave our own business, to attend to that of the College, for a very inadequate compensation; therefore, if we attend to some of our own matters, or take some recreation in the middle of the session of the Council, we do the Association no injustice." And there is not much difficulty in supposing that other members might say: "We are here for the purpose of attending to the business of the College, and should go on with it as quickly as we can, especially so as our businesses at home require our presence, and the funds of the College require economy." There is nothing very remarkable that such a divergence of opinion should occur. And I think, that now a little steam has been let off from the boiler, I can safely predict the machine will run smoothly enough at the next assembling of such wise men as *counsellors* ought to be. And I think I may venture another prediction,—that the order of the day will be for *strict economy*.

As my name has been quoted by one of your correspondents as a justification of a short day's work in August, 1881, perhaps you will allow me to give the reason for voting as I did.

Expecting the business of the session might be completed by one o'clock, as it sometimes had been, I made an engagement requiring my presence out of the city that afternoon. In addition to that, and which to me was a matter of great consequence, I felt I had on the previous day and that day, climbed numerous flights of stairs to the meeting room more than was safe on account of a sprained joint. So that when the vote was called for adjournment to the next day I felt that as I could not be present in the afternoon it would be very ungraceful in me to compel those who strongly desired a sail across the Lake, it being a very hot day, to meet and go to work. But for those circumstances I certainly should have sided with the party of strict economy.

As the funds of the College are not in the position they ought to be after twelve years of its existence, I will make the suggestion that it will be right and proper that in future the members of the Council receive no fees for attendance, but that as in the past the members from the country receive their travelling expenses. In making this suggestion I am aware that in view of the intention I have not to be in future a candidate for membership in the Council that it may be said, "It is very well for you to recommend others to work for nothing when you are about to retire, while in the past you have taken fees." To obviate what would be an inconsistency, I propose to return to the Association all the fees I have received from it, provided the suggestion is acted on.

It is, I think, quite evident that so long as the College has no domicile of its own it cannot take that respectable position among scientific institutions which it deserves. It is with organized bodies as with individual men that in order to enjoy the largest amount of respectability, comfort, and convenience, the possession of a house is necessary. With this in view it is highly important that the resources of the association be very strictly husbanded.

Since I have not been able to attend the meetings of the Council the policy embodied in the resolutions passed in August, 1879, respecting Paris Green has been reversed. This the majority had a perfect right to do. There is no doubt the reasons in the minds of those who changed the policy were, in their judgment, as cogent as those in the minds of the members who took the other view in 1879. The latter had strongly before them the evident spirit of hostility toward the College of Pharmacy manifested by the Committee of the Legislature when they were appealed to for amendments to the Act, which made them fear that if the farmers should make any complaint against druggists the Act of incorporation might be seriously impaired to the injury of those in that business. Remembering, too, that in part 2 of schedule A, referring to opium with its preparations, paregoric is excepted, evidently because of its general use. So it was believed that if Paris green had been in use by farmers when the Act was passed it would have been excepted from the preparations of arsenic. It was thought, too, that probably the potato pest would pass away in a short time, that therefore, it would not be wise to risk incurring a permanent evil for a temporary advantage. No notice so far having been taken of the *strict* interpretation in this matter there is apparently some reason to believe that the advocates of restricting the sale of the article in question to druggists, are in the right. There can be no doubt that both parties to this question had in view the best interests of the membership of the College.

A few words about the accumulation of funds during the existence of the College, and I will close this letter already too long.

Looking over the list of investments made by the College from February, 1871, the date of the Act of incorporation, to February, 1883, twelve years, I find the face value of them is \$3,600 which have cost at the price when purchased \$4,186. From which may be deducted for present calculations the stock of the Peoples Loan & Deposit Company, \$100, which was purchased by the unexpended voluntary contributions made for the purpose of entertaining the delegates of the American Pharmaceutical Association on their visit to Toronto, in 1878. I find then that in January, 1875, \$2010 was paid for bank stock, showing an annual average saving of \$502. In February, 1879, bank stock was bought at a cost of \$1541 equal to an annual average accumulation, since 1875, of \$385. The next investment is April, 1880, in Southern Loan

Company's stock, \$535, or a yearly saving since the previous investment of \$459. Now what have we to say for the period from April, 1880, to February, 1883, nearly three years. I learn from the treasurer that the estimated surplus is \$65, or about \$22 a year. But there is an important item yet to be considered; the revenue from investments, which, for the past three years, has amounted to \$846, or \$282 a year. So that for the past three years the College has been living, so to speak, on the savings of former years at the rate of \$260 a year in addition to ordinary current revenue. It is only fair to remember that there have been unusual items of expenditure, the chief of which has been the grant to the educational committee of \$600. Leaving that out it may be presumed the unusual expenses of the earlier years were as great in proportion to revenue as in the later ones.

What then are the practical inferences to be drawn from the financial facts above stated. I think the gentlemen composing the Council will agree with me that the expenses should be lessened or the ordinary revenue increased. It is for them to consider which can be done or whether both can be accomplished. If neither, then there is no prospect either near or remote for commencing housekeeping in the style befitting the ONTARIO COLLEGE OF PHARMACY.

Very respectfully yours,  
WM. ELLIOT,

Toronto, Jan. 20th, 1883.

## Practical Formulæ.

A BLACK ANILINE INK.—Deip. Farb. u. Zeugdr. Zeitg. (iv.) 117.—Dissolve 5 parts nigrosin in 100 parts water, and if the solution is very blue add a few drops of an aqueous solution of Bismarck brown. With the addition of 5 per cent. glycerine it becomes a copying ink.—*Journal of the Society of Chemical Industry.*

A BLACK LAQUER FOR LEATHER.—Leip. Farb, u. Zeugdr. Zeitg. (iv.) 117.—Dissolve—

	Grammes.
Best shellac .....	40
Sandarac .....	10
Mastic .....	5
In $\frac{1}{2}$ litre methylated spirit, and add 20 to 30 grammes pure Vene-	

tian turpentine. The solution is coloured a deep black by adding nigrosin.—*Journal of the Society of Chemical Industry.*

**NEW TREATMENT OF CHRONIC ECZEMA.**—One of the most eminent French practioners gives his experience of a simple palliative remedy for chronic eczema, viz.: oxide of zinc, the same having acted magically in more than one inveterate case, and must therefore be considered a great boon in relieving that most unmanageable disaease. In a notable instance, when everything, internally and externally, had been tried in vain, to mitigate the burning pain, finally resort was had to an application of oxide of zinc, four drachms, rubbed up with eight ounces of water, together with one drachm of Scheele's hydrocyanic acid ; this gave instant relief—and in fact, the pain of weeks was suddenly cured. The hydrocyanic acid is not, however, indispensable.

**NEW RECEIPT FOR PREPARING SHOE-BLACKING.**—E. Heim, Kufering, Bavaria. Ger. Pat. 19,279, February, 1882 ; add. pat. to 18,119, August, 1881.—The following is the recipe for the blacking :—

	Parts.
Beeswax or ceresine .....	90
Spermaceti .....	30
Oil of turpentine .....	350

Are melted and then mixed with—

	Parts.
Borax .....	10
Black .....	20
Prussian blue .....	10
Nitrobenzol .....	5

—*Journal of the Society of Chemical Industry.*

**FIREPROOF PAINT.**—Soluble glass has been largely used in painting on articles and woodwork that it is desirable to make incombustible. Messrs. Vilde and Schambeck use the following composition :

- 20 parts finely pulverized glass.
- 20 “ “ porcelain.
- 20 “ of any natural stone finely powdered.
- 10 “ of burnt lime.
- 30 “ soluble soda glass of about 42 or 36 per cent.

The solid matters are pulverized as finely as possible, then

mixed with water and passed through a fine sieve. They are next well mixed in a wet state with the soluble glass, which gives a syrupy mass, and it can be used in this condition or mixed with paint. The addition of lime gives a certain unctuosity for white-washing. The proportion of the ingredients except that of the soluble glass may be changed, but it is always useful to retain the lime, and in fact, the general composition as given above. Soluble potash glass may be used instead of the soda, but it is dearer. A second coating may be applied after six hours.

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**WATERPROOF GLUE.**—Dissolve  $\frac{1}{2}$  ounce each of gum sandarac and mastic in 8 fluid ounces of strong alcohol (or methylated spirit), to which add  $\frac{1}{4}$  ounce of turpentine. Put the dissolved gums into a double glue pot, add by degrees a hot, thick solution of glue, to which isinglass has been added; stir the whole over the fire until all the ingredients are thoroughly incorporated. Next strain through a cloth while hot, and it is ready for use. It may now be returned to the glue pot and  $\frac{1}{2}$  ounce of very finely powdered glass added to it. It should be used quite hot. Two pieces of wood joined by this glue may, when quite hard and dry, be immersed in water without fear of the joint opening or weakening. Another formula is the following: Take of shellac, 3 parts; india-rubber, 1 part, by weight. Dissolve each separately in ether free from alcohol. It is best to do this in stoppered bottles and without heating, as the ether readily evaporates. When solution is complete, mix the two, and keep well stoppered for use. This glue resists the action of water, both hot and cold, and most of the acids and alkalis. Pieces of wood, leather or other substances joined together by it will break at any other part than at the joint thus made. If the glue be thinned by the admixture of ether, and applied as a varnish to leather along the seams where it is sewed together, it renders the jointed seam water-tight.

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**ORANGE WINE.**—A writer in the *Semi-tropic California* describes his experience in making orange wines from the wild orange of Florida years ago. He says that it cannot be surpassed for medical purposes, and sold when only eight months old for \$3 per gallon. The oranges must be perfectly ripe. Peel them and cut them in halves, crosswise of the cells; squeeze into a tub. The press used must be so close that the seeds cannot pass into the must. Add two pounds of white sugar to each gallon of sour orange juice, or one pound to each gallon of the mixed sugar and juice. Close fermentation is necessary. The resultant wine is amber-colored, and tastes like dry hock with the orange aroma. Vinegar can be made from the refuse, and extract from the peels.

—*New Remedies.*

# Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor not later than the 25th of each month.

## SITUATIONS WANTED.

ASSISTANT.—G. D. Patterson, 394 Yonge Street, Toronto; graduate O.C.P.; four year's experience; age, 26; refers to D. L. Thompson, Toronto.

ASSISTANT.—Four years' experience; good dispenser; unexceptionable reference if required. Address, Drawer 4, Paisley, Ont.

APPRENTICE.—G. F. Rupert, Maple P. O., has had a short experience; prefers retail trade.

ASSISTANT.—J. J. Matthews, 146 Centre Street, Toronto; well qualified.

ASSISTANT.—T. Barker, 320 Adelaide St., west, Toronto, wants a situation in a wholesale house.

ASSISTANT.—J. Morton, 38 Wolsley St., Toronto; 3 years' experience as dispenser to a physician.

## BUSINESSES FOR SALE.

Josiah Green wishes to dispose of both of his businesses on Queen Street, west, Toronto; a good trade is being done, and the only reason for selling is ill-health of the owner.

J. C. Lander, of Yorkville and Yonge St., Toronto, is disposing of the stock and fixtures of the latter store, which he is prepared to sell in lots to suit purchasers.

The business of S. H. Ashton, Aurora, lately deceased, is for sale.

Mitchell & Watson, Port Hope, wish to sell their business. Mr. Mitchell now resides in New York, and Mr. Watson desires to go to the North-West.

## ARTICLES FOR SALE.

Messrs. Smith & McGlashan, Toronto, have still on hand a counter, and full set of drawers and shelving, belonging to their old business stand, which they offer for sale at a nominal price.

## BUSINESSES WANTED.

G. G. Eakins, Harriston, wants to purchase a business. Western town preferred.

## BUSINESS NOTES.

The partnership heretofore existing between Trott & Mitchell, Winnipeg, has been dissolved by mutual consent, Mr. Trott retiring. The business is continued by W. J. Mitchell.

Dr. P. E. Kidd, Midland, has sold his business to J. W. Slaven, of Orillia, the Orillia business being continued.

Tenders for the stock and fixtures of the Central Dispensary, Kingston, conducted by W. T. C. Bethel, have been invited by advertisement, and close on Feb. 1st. The stand is represented as being very good, fixtures new, and a large business being done.

Messrs. Smith & McGlashan, dealers in druggists' specialties, 40 Yonge Street, suffered some damage by fire on the morning of Jan. 25th. We are glad to state that the insurance will cover the loss, and firm will be in a position to resume business in a few days.

Mr. L. F. Sellick, of Morrisburg, has had the misfortune to be burned out. Some of his stock was saved in a damaged condition. The loss is covered by insurance.

William Rolls, of Guelph, advertises his business for sale.

G. B. McCullough, of St. Thomas, has failed.

F. Hurdon, formerly of Kincardine has removed to Ridgetown.

## SITUATIONS VACANT.

## MARKET REPORT.

January is usually the lightest month in the year, but business has been fully over the average. Storms have, however, blocked the roads in the country, and prevented remittances coming in as freely as desirable.

*Opium* has been unusually quiet, the demand being almost entirely for immediate consumption. *Morphia* is selling freely, and is rather easier in price.

*Quinine*, in the early part of the month, was rather depressed, very heavy stocks having accumulated in New York. The total import in that port, for 1882, reached the enormous amount of 794,495 ounces, of which a very considerable proportion is still held over. Within the past few days the probability of Congress imposing a duty of 10 per cent. has advanced the price slightly.

*Miscellaneous Drugs*.—Balsam of copaiba is selling freely at slightly higher rates. Tartaric acid, cream tartar, and argols have considerably advanced. Cubebs are lower. Castor oil is unchanged. Glycerine is firmer. Licorice is in good demand, but at higher rates. Mercury and mercurials are slightly easier. Essential oils offer little feature of note, peppermint being rather dull and lower. Gum arabic remains firm. There has been a large movement in shellac, and prices have considerably advanced. The boom in bitter drugs shows signs of subsiding, but quotations have not yet reached their former level. Canary seed is advancing steadily.

*Spices* are rather weaker, with the exception of ginger; all kinds appear to be in light supply.

*Paints and Oils*.—The leading manufacturers have fixed their rates at the same figures as last year for white lead in oil. Linseed oil is extremely low, owing to the immense receipts of seed in England from Calcutta. Spirits turpentine continues scarce, and any changes in price, up to a new crop, would likely be in the direction of an advance. Already the enterprising salesman endeavours to effect sales of Paris green, but as potato bugs have not yet made their appearance his efforts are crowned with but limited success. The prospect of a good crop of beetles, is, however, promising.



# Shuttleworth's Extracts.

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**STANDARD STRENGTH,  
BEST MATERIALS,  
CAREFUL PREPARATION,  
HOME MANUFACTURE.**

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## SPECIALTIES:

	LIST PRICE.
EXTRACT BAY for Bay Rum .....	\$4.00 per lb.
LIQ. OPII SEDATIVUS—uniform with Battley's	8.50 “
ELIXIR CALISAYA .....	9.00 per doz.
LIQ. CARBONIS DETERGENS .....	1.50 per lb.
GREEN SOAP—Sapo Viridis, true .....	
WITCH HAZEL—distilled.....	per doz. and bulk.

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**COMPOUND EXTRACT OF SANDAL WOOD, \$2.50 list, per lb.,**

A stronger and more efficacious preparation than the Liquor, and also more palatable. A specific for diseases for which Copaiba is used.

**ELIXIR APII CO.—Celery Seed—A New Nerve Tonic—\$9.00 doz.**

Highly recommended as a substitute for soothing syrups and other preparations of a like kind. Very easily administered.

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**Wholesale Agents in Toronto:**

**ELLIOT & CO.**

**LYMAN BROTHERS & CO.**

In ordering through these houses please affix the initials **E.B.S.**

**E. B. SHUTTLEWORTH, Manufacturing Chemist.**

# Lyman Brothers & Co.

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## NEW GOODS FOR THE MONTH.

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Solazzi Licorice, in cases.	Ammon, Carb, in cases.
Grasso       "       "       "	Curcuma, in bales.
Pignatelli   "       "       "	Sal Nitre, in barrels.
Mace,               "       "	Sal Rochelle, in casks.
Nutmegs,         "       "	Copper Sulph, in casks.
Pepper, black, in bales.	Epsom Salt,       "       "
Pepper, white,   "       "	Sulphur Sub       "       "
Pepper, Cayenne, in bales.	Hellebore, in bales.
Ginger, in barrels.	Gentian Root, in bales.

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Balsam Copaiba, (filtered) in casks.  
Croton Oil, in cases.  
Bergamot Oil, in cases.  
Lemon Oil,       "       "  
Rangoon Oil, in tins.  
Soda, Bicarb, "Howard's," in casks.  
      "       "       "Chance's"       "       "

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10 casks Gibson's Confectionery,

3 cases Rubber Sundries,

4 cases Rubber Combs.

Drugs, Medicines, &c.	£ c.	£ c.
Acid, Acetic, fort ..... per lb	0 12	0 14
Benzoic, pure .....	0 15	0 30
Carbolic, cryst., med .....	1 25	1 50
" com .....	0	0 50
Citric .....	0 80	1 00
Gallic .....	1 60	1 80
Muriatic .....	0 03½	0 06
Nitric .....	0 10½	0 15
Oxalic .....	0 18	0 19
Salicylic .....	2 25	2 40
Sulphuric .....	0 02½	0 05
Tannic .....	1 25	1 47
Tartaric, pulv .....	0 65	0 75
Ammon, carb. ....	0 21	0 24
Bromide .....	0 75	0 90
Iodide .....	4 00	5 00
Liquor, 880 .....	0 23	0 22
Muriate .....	0 14	0 15
Æther, Nitrous .....	0 30	0 45
Sulphuric .....	0 50	0 65
Antim. Nig., pulv .....	0 15	0 17
Tart .....	0 55	0 60
Alcohol, 95 per ct., bbl. .Cash	2 75	3 0
Arrowroot, Jamaica .....	0 14	0 22
Bermuda .....	0 45	0 65
Alum .....	0 02½	0 03½
Balsam, Canada .....	0 45	0 50
Copaiba .....	0 90	1 10
Tolu .....	1 00	1 10
Bark, Bayberry, pulv .....	0 18	0 20
Canella, .....	0 12	0 14
" pulv .....	0 20	0 22
Peruvian, yel. pulv .....	0 25	0 50
" red .....	1 60	2 40
Prickly Ash .....	0 30	0 47
Slippery Elm, grd. bulk .....	0 18	0 25
" flour, packets .....	0 28	0 32
Sassafras .....	0 12	0 16
Wild Cherry .....	0 10	0 12
Berries, Cubebs, ground .....	1 10	1 40
Juniper .....	0 07	0 10
Beans, Tonquin .....	2 25	3 00
Vanilla .....	10 00	15 00
Bismuth, Trismit .....	2 50	2 60
Carb. ....	2 60	2 70
liquor .....	0 35	0 55
Borax, refined .....	0 18	0 20
Camphor, American .....	0 35	0 37
English .....	0 48	0 50
Cantharides .....	1 50	1 60
Powdered .....	1 65	1 75
Chiretta .....	0 30	0 40
Chloroform. Pure .....	1 15	1 75
" D. & F .....	1 90	2 00
" German .....	0 60	0 70
Chloral hydrate .....	1 35	1 60
Cinchonine, Muriate .....	0 47	0 48
" Sulphate .....	0 34	0 42
Cinchonidia, Sulphate .....	1 10	1 27
Cochineal, S. G. ....	0 45	0 50
Black .....	0 45	0 50
Collodion .....	0 75	0 90
Cuttle-Fish Bone .....	0 35	0 45
Ergot .....	0 60	0 80
Extract Belladonna .....	3 10	3 10
Colocynth, Co. ....	1 25	1 75
Gentian .....	0 50	0 60
Hemlock, Ang .....	1 00	1 05
Henbane, " .....	3 00	3 50
Jalap .....	2 50	5 00
Mandrake .....	1 75	2 00
Nux Vomica .....	0 20	0 30
Opium .....	0 90	0 90
Rhubarb .....	4 00	5 00
Sarsap. Hon. Co. ....	1 00	1 20
" Jam. Co. ....	4 00	4 50
Taraxacum, Ang .....	0 65	0 80
Flowers, Arnica .....	0 20	0 25
Chamomile .....	0 40	0 50
Fuller's Earth .....	0 03	0 04
Gum, Aloes, Barb .....	0 30	0 70
" Cape .....	0 20	0 25
" powdered .....	0 23	0 25
" Socot. ....	0 54	0 75
" pulv .....	0 62	0 80
Arabic. Select .....	0 40	0 45
" powdered .....	0 45	0 55
" sorts .....	0 18	0 20

Drugs, Medicines, &c.—Contd.	£ c.	£ c.
Gum Arabic Sorts, powdered ..	0 20	0 30
Asafoetida .....	0 20	0 25
Benzooin .....	0 50	0 80
Catechu .....	0 12	0 15
" powdered .....	0 20	0 25
Gamboge .....	1 00	1 25
Guaiacum .....	0 65	1 00
Myrrh .....	0 45	0 85
Sang Dracon .....	0 15	0 45
Scammony, powdered .....	4 90	5 00
" Virg. ....	12 50	14 00
Shellac, Orange .....	0 35	0 40
Shellac, liver .....	0 33	0 38
Storax .....	0 65	0 50
Tragacanth, flake .....	0 65	1 35
" common .....	0 25	0 65
Galls .....	0 20	0 25
Gelatine, Cox's 6d. ....	1 20	1 25
" French .....	0 50	0 80
Glycerine, common crude .....	0 25	0 28
" 30° .....	0 35	0 38
Prices .....	0 70	0 00
Honey, Canada, best .....	0 20	0 25
Iron, Carb. Precip. ....	0 16	0 20
Citrate Ammon .....	0 95	1 00
" & Quinine, oz .....	0 45	1 10
" & Strychine .....	0 18	0 20
Fe chlor'ce solution .....	0 16	0 20
Sulphate, pure .....	0 06	0 10
Iodine, commercial .....	2 25	2 50
Resublimed .....	2 75	3 00
Jalapin .....	0 75	1 50
Kreosote .....	0 75	3 00
Leaves, Buchu .....	0 77	0 37
Melladonna .....	0 37	0 33
Foxglove .....	0 27	0 38
Henbane .....	0 25	0 25
Morehound .....	0 15	0 25
Lobelia .....	0 20	0 25
" pulv. ....	0 40	0 45
Senna, Alex .....	0 23	0 25
" E. I. ....	0 10	0 14
" Tinnevely .....	0 13	0 25
Uva Ursi .....	0 15	0 17
Lime, Chloride .....	0 02½	0 05
Lime, Hypo-phos hite .....	1 90	2 25
Sulphite .....	0 10	0 11
Lead, Acetate .....	0 13	0 17
" " Brown .....	0 09	0 10
Leptandrin .....	0 60	0 75
Lye, Concentrated .....	0 94	1 25
Liquorice, Solazzi .....	0 50	0 55
Marucci .....	0 35	0 37
Other brands .....	0 14	0 35
Magnesia, Carb. ....	0 20	0 25
" 4 oz. ....	0 18	0 22
Calcined .....	0 60	0 70
Citrate .....	0 40	0 75
Mercury .....	0 60	0 65
Ammoniated .....	1 25	1 30
Bichlor .....	0 80	0 90
Mercuriodide .....	3 60	4 0
Chloride .....	0 90	1 10
C. Chalk .....	0 40	0 70
Nit. Oxyd .....	1 10	1 30
Morphia Acet .....	2 75	2 95
Mur .....	2 75	2 90
Sulph .....	2 85	3 01
Musk, pure grain .....	34 00	.....
Canton .....	0 60	0 70
Moss, Irish .....	0 10	0 15
Oil, Almonds, sweet .....	0 60	0 65
" bitter .....	12 00	13 00
Aniseed .....	3 70	4 00
Bergamot, super .....	3 60	4 00
Caraway .....	3 20	3 50
Cassia .....	1 50	2 00
Castor, E. I. ....	0 10	0 12
Cedir .....	0 50	0 71
Citronella .....	1 25	1 50
Cloves, Ang .....	2 50	3 70
Cod Liver, Nor., Imp. Gal .....	3 50	3 75
" N. F. ....	2 25	2 50
Croton .....	1 85	2 00
Hemlock .....	0 45	0 90
Juniper Wood .....	0 65	0 90
Berries .....	0 00	2 00
Lavand, Ang .....	4 50	5 00

DRUGS, MEDICINES, &c.— <i>Cont'd.</i>		§ c.	§ c.
Oil, Lavand, Exotic.....lb.		1 40	3 50
Lemon.....		3 50	4 00
Orange.....		3 00	3 20
Neroli, super.....oz.		3 50	5 50
Origanum.....lb.		0 65	0 85
Peppermint Ang.....		13 00	15 00
Amer.....		3 75	4 75
Rose, Virgin.....oz		13 00	14 00
" good.....		7 00	8 00
Santal Ang.....lb.		9 00	9 75
Sassafras.....		1 00	1 20
Verbena.....		1 75	2 00
Wintergreen.....		4 00	4 50
Wormwood, pure.....		9 50	0 00
Ointment, blue.....		0 50	0 60
Opium, Turkey.....		4 00	4 75
pulp.....		7 70	9 00
Orange Peel, opt.....lb.		0 35	0 40
" good.....		0 16	0 25
Pill, Blue, Mass.....		0 55	0 75
Potas., Bi-chrom.....		3 14	0 16
Bi-tart.....		0 35	0 40
Bromide.....		0 48	0 55
Cyanide.....		0 54	0 55
Carbonate.....		0 13	0 15
Chlorate.....		0 22	0 25
Iodide.....		2 00	2 25
Nitrate.....		8 75	11 00
Sulphuret.....		0 25	0 35
Pepsin, Boudault's.....oz		1 20	1 20
Morson's.....oz.		0 90	1 00
Phosphorus.....		0 85	1 05
Podophyllin.....		0 45	0 50
Quinine, Howard's.....		2 35	2 75
" Germ an.....		1 85	2 05
Root, Colombo.....lb.		0 30	0 35
Curcuma, grd.....		0 11	0 15
Elecampane.....		0 16	0 17
Gentian.....		0 17	0 20
" pulp.....		0 21	0 20
Hellebore, pulp.....		0 15	0 18
Ipecac.....		1 75	0 00
Jalap, Vera Cruz.....		0 38	0 45
Liquorice, select.....		0 13	0 15
" powdered.....		0 13	0 15
Mandrake.....		0 12	0 20
Orris.....		0 18	0 25
Rhubarb, Trimmed.....		2 25	2 40
" E. I.....		0 85	0 95
" pulp.....		1 00	1 20
Sarsap., Hond.....		0 50	0 65
" Jam.....		0 60	0 00
Squills.....		0 16	0 20
Senega.....		0 95	1 00
Spigelia.....		0 55	0 60
Sal., Epsom.....		0 02	0 02½
Rochelle.....		0 35	0 38
Soda.....		1 25	2 50
Seed, Anise.....		0 12	0 15
Canary.....		5 50	6 00
Cardamon.....		2 40	2 75
Fenugreek, g'd.....		0 08	0 09
Flax, Ont. Cash 100 lbs		3 00	0 00
" Imported.....		3 00	3 00
Hemp.....		0 05	0 06½
Mustard, white.....		0 10	0 15
Saffron, American.....		0 60	0 75
Spanish.....		18 00	0 00
Santonine.....		4 50	5 75
Sago.....		0 08	0 09
Silver, Nitrate.....Cash		13 20	14 00
Soap, Castile, mottled.....		0 08½	0 11½
Soda, Ash.....		0 02	0 05
Bicarb. Newcastle. Keg		3 00	3 60
" Howard's.....lb		0 16	0 16
Caustic.....		2 50	5 00
Spirits Ammon., arom.....		0 40	0 45
Strychnine, Crystals.....oz		1 75	2 00
Sulphur. Precip.....lb.		0 15	0 16
Sublimed.....		0 03½	0 03½
Roll.....		0 02½	0 03½
Verdigris.....		0 50	0 55
Wax, White, pure.....		0 65	0 75
Zinc. Chloride.....oz		0 10	0 15
Sulphate, pure.....lb.		0 09	0 12
" common.....		0 06	0 10

## DYE-STUFFS.

Annatto.....	0 35 @ 0 60
Aniline, Magenta, cryst.....	2 15 2 50

DYE-STUFFS—*Continued.*

Argola, ground.....	0 15 0 33
Blue Vitriol, pure.....	0 06½ 0 08
Camwood.....	0 05½ 0 08
Copperas, Green.....	0 01½ 0 02
Cudbear.....	0 15 0 30
Fustic, Cuban.....	0 02½ 0 03
Indigo.....	0 75 1 00
Extract.....	0 25 2 50
" 1 lb. bxs.....	0 13½ —
" ½ lb. ".....	0 14½ —
Japonica.....	0 08 0 10
Lacdye, powdered.....	0 33 0 38
Logwood, Camp.....	0 02½ 0 03
Extract.....	0 9 0 12
Madder, best Dutch.....	0 12½ 0 14
Quercitron.....	0 03 0 05
Sumac.....	0 06 0 07
Tin, Muriate.....	0 10½ 0 12½
Redwood.....	0 03½ 0 04
SPICES.	
Allspice.....	0 20 @ 0 25
Cassia.....	0 20 0 25
Cloves.....	0 40 0 50
Cayenne.....	0 33 0 37
Ginger, E. I.....	0 12 0 14
Jam.....	0 27 0 30
Mace.....	0 85 1 00
Mustard, com.....	0 20 0 25
Nutmegs.....	0 95 1 00
Pepper, Black.....	0 18 0 20
White.....	0 30 0 32
PAINTS, DRY.	
Black, Lamp, com.....	0 08 @ 0 10
" refined.....	0 18 0 25
Blue, Celestial.....	0 09 0 12
Prussian.....	0 65 0 75
Brown, Vandyke.....	0 05 0 06
Chalk, White.....	0 01 0 01½
Green, Brunswick.....	0 07 0 10
Chrome.....	0 16 0 25
Paris.....	0 22 0 24
Magnesia.....	0 15 0 20
Litharge.....	0 07 0 08
Red Lead.....	0 05½ 0 07
Venetian.....	0 02½ 0 03
Sienna, B. & G.....	0 07 0 08
Umbre.....	0 07 0 10
Vermillion, English.....	0 90 1 00
American.....	0 20 0 22
Whiting.....100 lbs	0 85 1 00
White Lead, dry, gen.....lb.	0 06½ 7 00
" No. 1.....	0 05½ 6 00
Yellow Chrome.....	0 09 0 15
Ochre.....	0 02 0 03
Zinc White, Star.....	0 06½ 0 11
COLORS, IN OIL.	
Blue Paint.....	0 12 @ 0 15
Fire Proof Paint.....	0 06 0 08
Green, Paris.....	0 25 0 30
Red, Venetian.....	0 07 0 10
Patent Dryers, 1 lb tins.....	0 10 0 12
Putty.....	0 03 0 03½
Yellow Ochre.....	0 08 0 12
White Lead, gen. 25 lb. tins.....	1 80 2 00
" No. 1.....	1 60 1 75
" No. 2.....less 7½ pc	1 40 1 50
" No. 3.....	1 20 1 25
White Zinc, Snow.....	2 25 2 35
NAVAL STORES.	
Black Pitch.....	3 50 @ 4 00
Rosin, Strained.....lb	3 60 4 00
Clear, pale.....	5 50 6 50
Spirits Turpentine Imp. Gall.....	0 90 1 00
Tar Wood.....	4 80 5 20
OILS.	
Cod Imp. Gall.....	0 75 @ 0 80
Lard, extra.....	1 10 1 20
No. 1.....	1 05 1 10
Linseed, Raw per gibs.....	0 68 0 75
Boiled.....	0 72 0 80
Neats-foot.....	1 30 1 40
Olive, Common, Imp. Gall.....	1 05 1 15
Salad.....	2 10 2 20
" Pints, cases.....	4 00 4 20
" Quarts.....	3 25 3 50
Seal Oil, Pale, Imp. Gal.....	0 90 0 95
Union Salad.....	1 20 1 20
Sperm, genuine.....	2 40 2 50

—1883.—

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# ONTARIO COLLEGE OF PHARMACY.

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## EDUCATION COMMITTEE.

N. C. LOVE, Esq., TORONTO.

W. SAUNDERS, Esq., LONDON

J. HENDERSON, Esq., TORONTO.

W. A. GUNN, Esq., KINGSTON.

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## THIRD SEMI-ANNUAL ANNOUNCEMENT.

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### LECTURE DEPARTMENT.

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#### LECTURERS.

CHEMISTRY AND PHARMACY - - *Professor* SHUTTLEWORTH.

MATERIA MEDICA AND DISPENSING - - - - *Professor* ROSE.

BOTANY - - - - - *Professor* MONTGOMERY.

THE COLLEGE BUILDING is centrally located at the corner of Wellington and Scott Streets, and is fitted with every laboratory requisite for instruction in the practical departments of the branches of study. The Museum of Materia Medica is now tolerably complete and is receiving constant additions. All the pharmaceutical journals published in the English language will be kept on file in the Reading Room.

The next session will commence on TUESDAY, MARCH 13TH, 1883, and lectures will be delivered daily until June 19th. The twenty-fourth semi-annual examination will take place on June 25th and following days.

## COURSE OF INSTRUCTION.

## ELEMENTARY CHEMISTRY.

Lectures will be delivered on Monday, Wednesday and Friday. The course will comprise an exposition of the leading principles and doctrines of the science of chemistry and those branches of physical science which are involved in pharmaceutical study. The following is a brief synopsis of the principal subjects:

**PHYSICS.** General properties of matter. **GRAVITATION.**—The balance—weight—Specific gravity—The barometer. **COHESION AND ADHESION.**—molecular attraction—capillary attraction. **ELASTICITY.**—Physical condition of gases—laws of expansion and diffusion. **HEAT.**—Nature and development—emission—absorption—reflection and transmission—expansion of bodies—thermometers—specific heat—latent heat. **LIGHT.**—nature and influence on chemical changes—the spectroscope and polariscope. **ELECTRICITY AND MAGNETISM.**—Principles—forms of apparatus.

**CHEMISTRY.**—**CHEMICAL FORCE.** Classification of the elements. **CHEMICAL PHILOSOPHY.**—laws of chemical combination—definite, multiple and reciprocal proportions—equivalence—atomic theory—atomic numbers—symbols and chemical nomenclature and formulæ—the elements and their simple combinations.

## PHARMACEUTICAL CHEMISTRY.

Lectures will be delivered on Tuesday, Thursday and Saturday mornings, and will embrace a consideration of the chemistry, official and commercial preparation, characters, properties, impurities and tests of all the definite chemical compounds mentioned in the British Pharmacopœia or common in trade.

## PRACTICAL CHEMISTRY.

A course of Laboratory instruction in order to enable the student to recognise all the common elements and acids, and test practically the purity of the compounds of the Pharmacopœia.

Students will be supplied by the College with all the more expensive forms of apparatus, but articles in constant use, as beakers, capsules, test tubes, etc., will be provided on a plan similar to that followed by Colleges in Great Britain and the United States. A small deposit, covering the cost of such apparatus, will be required of those entering the classes, and the amount, less loss by breakage, will be refunded at the close of the session.

## PHARMACY.

Lectures or practical instruction on every Tuesday, Thursday and Saturday morning.

**SYNOPSIS OF SUBJECTS.**—Pharmaceutical weights and measures; Interchange of the various systems. Powdering of drugs—*Pulveres* of the Pharmacopœia. **SOLUTION, PRECIPITATION, DECANTATION, ELUTRIATION, FILTRATION, TINCTURA.**

**Vina, INFUSION AND DECOCTION.**—Infusa, Decocta—**EVAPORATION.**—Extracta, **Succi**, Lotiones, Linimenta, Calaplasma, **FUSION AND LIQUEFACTION.**—Unguenta, **Emplastra.** **DISTILLATION.**—Aqua, Spiritus. Syrupi, Mellita, Mucilagines, Trochisci, Confectiones, Glycerina, Enemata, Suppositoria, Vapores, **PILL MAKING.**—Pilula, **Unclassed preparations.** The individual members of the above Pharmacopœial classes will be separately taken up, and the preparation, characters, adulterations and doses of each fully described and stated.

### **MATERIA MEDICA.**

Lectures on Monday, Wednesday and Friday mornings.

**SYNOPSIS OF SUBJECTS.**—Origin, description, constituents, properties, adulterations, uses and doses of all the Crude Drugs of Animal or Vegetable origin that are official in the Pharmacopœia, or of importance in Canadian pharmacy. The lectures will be fully illustrated by specimens and microscopical work. The course will also embrace an outline of the method of preparation of the principal alkaloids and active principles. The student will be taught to assay the strength of the more important drugs, and required to make practical tests of the alkaloidal strengths of such articles as Opium, Cinchona, etc.

### **BOTANY.**

Lectures will be delivered on every Tuesday, Thursday and Saturday morning, and Botanical excursions will take place from time to time during the session. The teaching of the Histological portions of the subject will include practical microscopical demonstrations:

**SYNOPSIS OF SUBJECTS.**—Objects and departments of Botany—general distinctive characters between the members of the animal, vegetable and mineral kingdoms. **ELEMENTARY HISTOLOGY**, or elementary structure of plants. Morphology and Histology of the organs of nutrition in the Phanerogamia and the Cryptogamia. Morphology and Histology of the Flower. Nature, general characters and kinds of Fruit. Structure of Ovule. Methods of Fertilization. General characters and structure of Seeds. Germination. Distinctive characters of Gymnosperms. Reproductive organs of the Cryptogamia. Food of plants and sources—function of absorption, distribution of fluid matters through the plant, and alteration in the leaves. **GENERAL PRINCIPLES OF CLASSIFICATION.**—Characters of the various divisions of the Natural System. **CHARACTERS** of the more important Natural orders, and the medicinal plants belonging to them.

### **PRACTICAL DISPENSING.**

**INSTRUCTIONS IN THE ART OF DISPENSING** will be provided in order to afford assistance to those students who may not have had opportunities for experience in this branch. The class will meet on three days a week. The instruction will be of a thoroughly practical character, embracing the dispensing of prescriptions for Mixtures, Liniments, Pills, Plasters, Blisters, Suppositories, etc. The difficulties that frequently occur to dispensers will be explained, and incompatibilities pointed out,

A SHORT COURSE IN PHARMACEUTICAL LATIN, for those whose classical knowledge may be deficient, will also be given, together with a study of abbreviations, and particular attention will be directed to the reading of Autograph Prescriptions, of which a large collection has been provided from prescription files in the city and elsewhere.

### TEXT BOOKS.

These may be brought by the student, but can be obtained in Toronto at about the following prices:

Roscoe's Chemistry, \$1.30.

Squire's Companion, \$3.00.

Periera's *Materia Medica*, \$7.00.

Fownes' Chemistry, \$2.75.

Periera's Prescription Book, \$1.40.

Gray's Manual of Botany, \$2.40.

*Maisch's Materia Medica*, \$3.25.

*Attfield's Chemistry*, \$2.50.

*British Pharmacopæia*, \$3.00.

Royle's *Materia Medica*, \$4.25.

*Gray's Lessons in Botany*, \$1.25.

Parrish's Pharmacy, \$5.50.

Cooley's Pharmaceutical Latin Grammar, \$1.50.

Those in Italics are necessary; the others are desirable aids.

### TERMS, ETC.

The fees for the entire course will be Thirty-six dollars, payable in advance to the Director, on which the applicant will receive a General Lecture Ticket, which will be certified at the close of the session.

Intending students may enter at any time during the course, but without they attend within the first four weeks, will not be entitled to certificates of attendance. It is particularly desirable that students should take the entire course in order to obtain the fullest benefit from the lectures.

Students may enter at any time during their apprenticeship, and the time spent at the College will be included in the three years service required by the Regulations of the Board of Examiners, before the candidate can be granted a License to practice in Ontario. Candidates of less experience may go up for examination, but have to obtain 90 per cent. of the available marks in Reading Prescriptions and Dispensing, while the minimum for those who have served the full term is 66 per cent.

It has been arranged that students may be allowed to extend their work over two sessions: That is, two or three branches as chemistry, botany and dispensing, may be taken during the coming term, and the other subjects in the succeeding term. This arrangement, while affording a better opportunity of gaining a thorough knowledge of the various subjects, is especially designed to enable students to attend lectures, and, at the same time, retain their situations.

The student having received his Lecture ticket must sign the Roll and subscribe to the Rules of the College.

Good Board may be obtained in Toronto at \$3.00 to 4.00 per week.

All applications or enquiries to be addressed to

E. B. SHUTTLEWORTH,

*Director.*



# STUDENTS' ROLL.

## SUMMER TERM, 1882.

STUDENT'S NAME.	RESIDENCE.	PRECEPTOR.
F. W. Hall.....	Chatham.....	H. O. Hall.
E. Casselman.....	Morrisburg.....	L. Sellick.
M. F. Eby.....	Port Elgin.....	M. F. Eby, Sr.
C. A. Bird.....	London.....	B. A. Mitchell.
S. W. S. Toms.....	Whitby.....	W. Woon.
H. Webber.....	Ottawa.....	H. F. MacCarthy.
H. B. Bridgland.....	Bracebridge.....	Dr. Bridgland.
W. Taylor.....	Harriston.....	W. Taylor, Sr.
W. V. Cook.....	Welland.....	H. W. Hobson.
A. A. Abbott.....	Toronto.....	C. A. Mitchell.
A. T. Gamsby.....	Orono.....	L. A. Gamsby.
E. F. Robinson.....	Yorkville.....	W. S. Robinson.
S. N. Erbe.....	Toronto.....	J. E. Neville.
F. H. Yapp.....	Brantford.....	Blackader & Mills.
W. W. Boothe.....	Toronto.....	W. T. Barker.
A. A. Campbell.....	Hamilton.....	J. A. Clark.
J. A. Allen.....	Adolphustown.....	Michigan University.
R. Copeland.....	Lucknow.....	G. A. Shepard.
J. Benson.....	Toronto.....	C. A. Mitchell.
E. Higginbotham.....	Bowmanville.....	J. Higginbotham.
G. Suttie.....	Toronto.....	J. Brown.

Nineteen of the above students went up for the Midsummer Examination, of whom sixteen passed, and now hold Diplomas. The First Prize was taken by Mr. H. Webber (102 out of a possible 120 marks) and two Second Prizes (equal), Mr. E. F. Robinson, and Mr. S. W. S. Toms, (100 marks).

## WINTER TERM, 1882-1883.

H. H. Roche.....	Kingston.....	J. G. King.
T. Morrow.....	Chatsworth.....	J. W. Elliott.
T. F. Brown.....	Keenansville.....	J. B. Bond.
F. Burgess.....	Toronto.....	R. Robinson.
J. A. Coombe.....	Clinton.....	J. H. Coombe.
W. Grant.....	Ottawa.....	J. Skinner & Co.
A. Ernewein.....	Mildmay.....	J. A. Diemert.
W. G. Brown.....	Hamilton.....	Garland & Rutherford.
T. W. G. Jefferis.....	Oakville.....	B. G. Jefferis.
J. S. Greey.....	Galt.....	Gibbard Bros.
D. C. Carson.....	Port Hope.....	G. A. Mitchell.
A. Menzies.....	Carlton Place.....	D. F. McEwan.
G. W. Willisacrott.....	Southampton.....	T. B. Smith.

J. S. Anderson.....	Guelph.....	Herod & Co.
F. W. May.....	Toronto .....	H. J. Rosa.
G. A. Bingham.....	Toronto .....	J. F. Williams.
E. J. Glenney.....	Oshawa.....	J. W. Higginbotham.
J. N. Fitchett.....	Napanee.....	A. W. Grange.
J. Coates.....	Mitchell .....	J. W. Cull.
J. D. Higginbotham.....	Guelph.....	W. G. Smith & Co.
J. Hodgson.....	Brampton.....	B. Hodgson.
J. E. Neff.....	Port Colborne.....	F. D. Thuresson.
J. Hargreaves.....	Paisley.....	W. A. Hargreaves.
C. Orchard.....	Newcastle.....	B. Fothergill.
J. W. Snowball.....	St. George.....	J. H. Fleming
M. MacPherson.....	Ottawa.....	B. J. Mills.
G. G. Brown.....	Owen Sound.....	Lang Brothers.
J. Bray.....	Ottawa.....	E. D. Martin.
C. R. Sneath.....	Barrie.....	G. Monkman.
B. A. Duncan.....	Embro.....	E. C. Fraser.
J. Dinning.....	London .....	W. T. Strong.
G. H. Stanbury.....	Toronto.....	G. B. Smith & Co.
W. A. Elliott.....	Culloden.....	J. E. York & Co.
C. A. Eddington.....	Thamesville.....	A. N. Hoag.
F. E. Arkell.....	Elora.....	W. Henderson.
W. A. Douglas.....	Warkworth.....	N. Empey.
G. A. Hunter.....	Clarksburg.....	C. W. Hartman.
A. W. Ball.....	Millbrook.....	A. Leach.
J. H. Dickey.....	Toronto .....	E. A. Smith.
A. G. Kennedy.....	Toronto .....	J. Wright.
F. Flett.....	Toronto .....	W. Brydon.
A. A. Abbott.....	Toronto .....	C. A. Mitchell.
J. Struthers.....	Kincardine.....	Dr. Martin.

# CANADIAN PHARMACEUTICAL JOURNAL

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TORONTO, MARCH, 1883.

WHOLE No. CLXXIV

## Ontario College of Pharmacy.

### COUNCIL MEETING, FEBRUARY 7TH, 1883.

The meeting was called to order at 3.15 p.m., the following members being present: Messrs. Hugh Miller, President; G. J. Waugh, Vice-President; Wm. Saunders, John Henderson, H. J. Rose, L. W. Yeomans, W. A. Gunn, W. B. Sanders, R. H. Perry and N. C. Love.

The minutes of the meeting held August 2nd, 3rd and 4th, were read.

Moved by Mr. Waugh, seconded by Mr. Saunders, That the Minutes as read be confirmed. Carried.

The Special Committee reported verbally that the College of Physicians was not intending to erect buildings at present.

The report of the Board of Examiners was read by Mr. Rose.

#### EXAMINERS' REPORT.

Your examiners beg to report that the twenty-fourth examination was held in the rooms of the College on the 30th and 31st January and 1st and 2nd February.

That 47 candidates entered their names, and 43 presented themselves for examination with the following result:

Name.	Marks.
1. Frank W. May, Toronto.....	101.4
2. Herbert Penny, London.....	101.1
3. Chas. H. Sneath, Barrie..	100.5
4. Thos. Fred. Burgess, Toronto.....	98.7
5. J. S. Anderson, Toronto.....	98.6
6. Geo. Willisroft, Southampton.....	98.0
7. R. A. Duncan, Embro .....	98.0
8. A. E. Ernewein, Mildmay.....	97.0

9. John Bray, Ottawa.....	97.0
10. Jas. A. Coombe, Clinton.....	96.0
11. Jas. Struthers, Kincardine .....	94.0
12. W. R. Hoar, Whitby .....	93.0
13. C. A. Bingham, Bradford.....	93.0
14. Jas. H. Dickey, Toronto.....	92.0
15. D. C. Carson, Port Hope.....	91.0
16. C. M. Eddington, Thamesville.....	90.0
17. F. E. Arkell, Elora .....	90.0
18. M. Macpherson, Ottawa.....	90.0
19. G. A. Hunter, Clarksburg.....	90.0
20. C. Orchard, Newcastle.....	90.0

The above named gentlemen having secured 75 per cent. of the maximum number of marks attainable have passed with honors, and the following, having secured 80 marks or over, are entitled to certificates :

H. H. Roche, Kingston,  
J. S. Greey, Galt,  
John Hargreaves, Paisley,  
A. W. Abbott, Toronto,  
L. Oldfield, Dundalk,  
T. F. Brown, Keenansville,  
J. L. Dinning, London,  
Isaac L. Davis, Wingham,  
G. G. Brown, Owen Sound,  
H. J. Cameron, Beaverton,  
John Coates, Mitchell,  
T. W. G. Jefferis, Oakville,

Out of a possible twenty marks in each subject the following took the first places :

Chemistry—A. E. Ernewein .....	19.4
Materia Medica—Jas. A. Coombe .....	18.3
Pharmacy—F. W. May .....	17.8
Botany—G. A. Bingham .....	19.8
Prescriptions—John Bray.....	18.5
Dispensing—J. S. Anderson.....	20.0

Your examiners take pleasure in drawing your attention to the greatly improved general proficiency of the candidates as shown by the above. The first position in each department was very closely contested and required great care to decide with accuracy.

All of which is respectfully submitted.

E. B. SHUTTLEWORTH,  
E. GREGORY,

L. W. YEOMANS,  
HENRY J. ROSE,

WM. S. ROBINSON.

Moved by Mr. Saunders, seconded by Mr. Love, That the report be received and adopted. Carried.

The Report of the Registration Committee was read by Mr. Love.

REPORT OF THE REGISTRATION COMMITTEE.

Your committee beg to report that John P. May, having put in proof that he had complied with the requirements of the Act, has been registered as a qualified assistant prior to the passing of the Act.

The application of J. S. Moffatt, of Owen Sound, was considered by us proof that he was in business on his own account for a period of four years prior to the passing of the Act; being satisfactory, his name has been placed on the register.

John Charles Rodden, Prince Arthur's Landing, having put in proof that he was engaged as assistant the required time, the same being satisfactory, he has been registered.

The application of John Boyes, Colborne, accompanied with declaration that he was engaged in the business of chemist and druggist before the passing of the Act, the same being satisfactory, his name has been placed on the register.

The following medical practitioners applied for registration, and as their names appear on the Medical Register for Ontario, they were granted registration: Geo. Deans, Trenton; James Johnson, Millbank, and George McWilliams, Dundalk.

All of which is respectfully submitted.

NEIL C. LOVE,  
*Chairman Infringement Committee.*

Moved by Mr. Love, seconded by Mr. Saunders, That the report be received and adopted. Carried.

Moved by Mr. Saunders, seconded by Mr. Yeomans, That the resignation of Mr. Wm. Elliot be accepted, and that in doing so, this board desire to express their regret that the continued inability of Mr. Elliot to attend the meetings should have deprived the College of the Council of one of its most valued members.

Moved by Mr. Yeomans, seconded by Mr. Saunders, That Mr. R. W. Elliot be elected as a member of this board, to occupy the position made vacant by the resignation of Mr. Wm. Elliot, and that the new member shall take the position on all the committees occupied by his predecessor.

Moved in amendment by Mr. Perry, seconded by Mr. Sanders, That Mr. E. Grégory, of Lindsay, be appointed to fill the vacancy so made by the resignation of Mr. Wm. Elliot.

The amendment was put and declared carried.

Moved by Mr. Sanders, seconded by Mr. Waugh, That the President name a Committee to draft a resolution regretting the demise of a useful member of this board in the person of the late

W. T. Bray, Esq., and submit the same to the meeting of the board to-morrow. Carried.

The President named Messrs. Sanders, Perry and Waugh.

#### REGISTRAR TREASURER'S REPORT.

Office of the Registrar-Treasurer,  
Toronto, 7th February, 1883.

#### *To the Council of the Ontario College of Pharmacy.*

GENTLEMEN,—Your Registrar-Treasurer begs to report that, since the meeting of the Council last August, the following names have been entered on the Register, viz.: John P. May, Toronto, John Charles Rodden, Prince Arthur's Landing; J. S. Moffatt, Owen Sound; Dr. George Deans, Trenton; Dr. James Johnson, Millbank; Dr. George McWilliams, Dundalk; and John Boyer, Colborne.

The following have been removed from the roll of members by death, viz.: Wm. Bray, Petrolia; W. T. Bray, Wingham; G. N. Challoner, Walkerton; T. C. Wells, Port Colborne.

Mr. Bray was a member of the Council from July, 1879; he was also chairman of the Infringement Committee; his death took place after that of his father.

I have received from the Secretary of the British Pharmaceutical Conference a copy of the Year Book of Pharmacy, with the transactions of the British Pharmaceutical Conference held at Southampton, August 1882.

I have much pleasure to report that the large number of fees outstanding in August have all been paid (except two). Twenty have gone out of business, six have gone to Manitoba, two are dead, and several who are medical men claimed exemption.

The renewals issued during the past six months were as follows: two for 1881, and one hundred and fifty-six for 1882.

I beg to submit the following statement of receipts and disbursements for the half-year ending 31st January, 1883.

1882.

#### *Receipts.*

Aug. 1. To Balance in Can. Bank of Commerce.....	\$1534 04
" Renewal Fees.....	630 00
" Registration Fees.....	20 00
" Examination " .....	184 00
" New Diplomas .....	84 00
" Sale of Poison Books .....	1 95
" Dividend on People's Loan Stock.....	3 50
"         "         Southern "         " .....	17 50
"         "         Bank of Commerce Stock.....	120 00
" Acct. Pharmaceutical Journal .....	100 20

**\$2695 19**

DISBURSEMENTS.

Aug. 3—By Expenses of Semi-Annual Meeting .....	\$205	36
“ “ Examiners, &c. ....	168	70
“ “ Auditors .....	20	00
“ Editor's Salary.....	250	00
“ Registrar-Treasurer's Salary .....	250	00
“ Advertising . ....	37	35
“ Postage, \$20.00 ; Exam'n Supplies, \$24.77...	44	77
“ Stationery, \$26.65 ; Prizes, \$35.00 ....	61	65
“ Prosecution and Detective .....	144	20
“ Education Committee .....	405	80
“ Pharmaceutical Journal .....	260	50
“ Sundry small accounts.....	8	05
“ By Balance in Canadian Bank of Commerce	688	81

\$2695 19

In reference to the resolution passed by the Council at the last meeting in respect to Branch Stores, I have to report that, before taking action in court, (with the consent of the President) I obtained legal opinion from the Solicitors of the College, upon receipt of which I refrained from taking proceedings. I beg to submit the same to the Council.

I have to report that I have not heard respecting Mr. J. E. Brown, Delta, who has been carrying on business in the name of R. E. Dennant, deceased.

Insurance to the extent of \$500 has been effected on the glassware and fittings, purchased for the use of the teaching College.

All of which is respectfully submitted.

GEORGE HODGETTS,  
*Registrar-Treasurer.*

Moved by Mr. Love, seconded by Mr. Yeomans, That the report be received. Carried.

Moved by Mr. Rose, seconded by Mr. Love, That Mr. Robinson be elected a member of this Council, in the place of the late lamented member, Mr. Bray.

Moved in amendment by Mr. Waugh, seconded by Mr. Sanders, That Mr. Jordan be appointed as member of this Council.

The amendment was put and declared lost. The original motion was then put and carried.

Mr. Robinson, being present, took his seat.

The report of the Infringement Committee was read by Mr. Sanders.

REPORT OF THE INFRINGEMENT COMMITTEE.

*To the President, Vice-President and members of the Council of the Ontario College of Pharmacy,—*

GENTLEMEN,—Representing the Infringement Committee, as

superintendent of the Central District of Ontario, I beg to submit to you a report of my proceedings for the past six months, together with a detailed statement of prosecutions conducted by the Public Prosecutor for this District.

Immediately after the much lamented death of our efficient chairman complaints reached me of the infringement of the Pharmacy Act in different parts of my district, but before assuming the power hitherto exercised only by the Chairman of the Committee, I wrote the President, asking him to transmit to me his authority to issue instructions to the Public Prosecutor.

Your Registrar replied, "He (Mr. Miller) is under the impression you have the power to carry out any necessary prosecutions in the Central District by the Council adopting and confirming the report of the Infringement Committee."

The first complaint arose in the city of Toronto, whence I instructed the Public Prosecutor to at once proceed and investigate, but for some unexplained reason he returned without having taken any action.

The next was that of an illegal vendor in the village of Beeton where the Public Prosecutor secured three convictions; the fines, together with cost, amounting to \$42.40.

The most flagrant violation of the Pharmacy Act, which I have to report has existed for some time in the village of Dundalk in the county of Grey, where two businesses have been carried on by unqualified persons, one of whom had also a branch store in the village of Maxwell, some miles distant. So soon as the fact came to my knowledge, I instructed the Public Prosecutor to take prompt proceedings against the offenders. The result being, not only two convictions in the one case and three in the other, but the subsequent disposal of both businesses, which are now conducted by qualified druggists.

I may mention that, though many complaints have been made to me, comparatively few are in writing, and only the latter are taken cognizance of.

Endeavoring to carry out the resolution adopted at the last meeting of the Board, respecting the matter of branch drug stores, I sent the Public Prosecutor to Toronto (where an opportunity offered, as advised by your Registrar's letter of Oct. 11, 1882) for the purpose of making a test case as stated in the resolution, but the Public Prosecutor reports that when he was ready to proceed the President and Registrar asked him to postpone proceedings and wait for further advice from them.

Appended is the Public Prosecutor's report in detail, together with his remarks thereon.

All of which is respectfully submitted.

W. B. SANDERS,  
*Sup't. C. D. Ont.*

Toronto, Feb., 1883.



PUBLIC PROSECUTOR'S REPORT FOR THE TERM ENDING FEBRUARY, 1883

No.	Name.	Date.	Place.	Nature of Infringe- ment.	& Costs. Fine
1	— Gullen.....	Oct. 17	Toronto	Keeping open shop	} Not proceed- ed against.
2	Josiah Green.....	Oct. 17	do.	Branch store ....	
3	W. H. Howell.....	Nov. 23	Beeton	Assuming title	\$ 7 95
4	W. H. Howell.....	Nov. 23	do.	Selling poisons	7 95
5	W. H. Howell.....	Nov. 23	do.	Keeping open shop	26 50
6	R. S. Ludlow.....	Dec. 7	Dundalk	Selling poisons	4 50
7	R. S. Ludlow.....	Dec. 7	do.	Keeping open shop	7 00
8	G. W. Parsons.....	Dec. 7	do.	Assuming title	3 50
9	G. W. Parsons.....	Dec. 7	do.	Selling poisons	6 00
10	G. W. Parsons.....	Dec. 7	do.	Keeping open shop	11 00

In cases Nos. 1 and 2 I received instructions from Superintendent Sanders to investigate, which I did. In first case I could have secured conviction, but it was very complicated, an M. D. being interested. In the 2nd case I succeeded in getting two clear cases for keeping stores without certificates. I was told by the President not to proceed until notified by Mr. Hodgetts. I have not since heard anything in the matter.

Oct. 17. I made complaint to Supt. Sanders of a druggist in Barrie, whom I had called on, not having his renewal after having been notified by me.

Nov. 29. I received information from the President of a regular druggist in Whitby having sold poisons for an illegal purpose without registering the sale and requested me to correspond with county attorney of Whitby who had made complaint. I did so but received no answer.

JOSEPH E. ROGERS,  
*Public Prosecutor.*

Moved by Mr. Sanders, seconded by Mr. Waugh, That the report of the Infringement Committee be received. Carried.

Moved by Mr. Love, seconded by Mr. Waugh, That a statement of expenses incurred for prosecution be produced at the meeting to-morrow. Carried.

On motion, the Council adjourned to meet next day at 10 a.m.  
Council adjourned at 4.45 p.m.

THURSDAY, 8TH FEBRUARY.

Council met at 10 a.m.

In addition to members present yesterday, Mr. E. Harvey was in attendance.

The minutes of the meeting held yesterday were read.

Mr. Harvey rose to a point of order as to Prof. Rose being qualified to a seat at the Board, he being a teacher in the Educational Department of the College. He drew attention to By-Law XV.

The President ruled that every action taken by this Council during the time Prof. Rose has been a teacher is perfectly legal.

Moved by Mr. Saunders, seconded by Mr. Love, That the morning session of this Council continue until twelve o'clock; that we then adjourn to meet at two p.m., and continue in session until six p.m.

An appeal was made to the President as to the motion being in order.

The President ruled it was in order.

The resolution was put and declared lost.

The Yeas and Nays were called for.

Yeas—Messrs. Love, Saunders, Rose and Yeomans.

Nays—Messrs. Sanders, Henderson, Perry, Robinson, Harvey and Waugh.

The report of the Auditor's was read.

On motion the report was received.

Moved by Mr. E. Harvey, seconded by Mr. W. B. Sanders, That the report of the Auditors be referred back, with a request that they will prepare a detailed statement of the receipts and expenditures in connection with the College for the past six months, in accordance with Clause 7 of the By-Laws, and report at the session this afternoon. Carried.

The special committee to draft a resolution of condolence on the death of Mr. Bray presented their report.

#### RESOLUTION OF CONDOLENCE.

Your Committee beg to submit the following resolution.

Moved by W. B. Sanders, seconded by E. Harvey, That at the first meeting of the Ontario College of Pharmacy held since the removal by death of one of our number, Mr. W. T. Bray, late representative of a western section of Ontario, we desire to put on record our deep sense of the loss the College has thereby sustained. The deceased had a long and honorable connection with the interests of the College, and enjoyed a more than ordinary measure of popular confidence and esteem, as evidenced by the responsible positions which he filled from time to time. In whatever capacity he served at the Board, he uniformly discharged the duties assigned to him with great practical wisdom, maintaining at the same time an untarnished reputation for integrity and uprightness, he sought by every legitimate means in his power to advance the interest and prosperity of the Association. The deceased will be much missed in all the various relations of life, and his memory will be long and affectionately cherished by those who were in any way associated with him.

This Council would further express their heartfelt sympathy with the bereaved widow and child in their great loss.

Moved by Mr. W. B. Sanders, seconded by Mr. Harvey, That the report be received. Carried.

Moved by Mr. Waugh, seconded by Mr. Robinson, That the

report be adopted, and that a copy of the resolution be sent to his widow. Carried.

The report of the Educational Committee was read by Mr. Love.

REPORT OF THE EDUCATIONAL COMMITTEE.

Your committee beg to report that they find the Teaching College in a very prosperous and flourishing condition, the attendance last term having been more than double that of the former one. In point of excellence reports from examiners shew that students are far in advance in efficiency, compared with any previous examination as yet held. They cannot but attribute this state of affairs to the good work done by the Teaching College, the establishment which has been our aim for many years. The expenditure has kept within the appropriation. We would not ask any further grant for the present, but would like to see the students supplied with some further appliances as soon as convenient. They need an analytical balance and a microscope, and we trust the day is not far distant when these very necessary adjuncts will be supplied.

All of which is respectfully submitted.

NEIL C. LOVE,  
Chairman.

*Statement of Receipts and Expenditure—College Grant—Second Term*

RECEIPTS.

Grant made last meeting but not yet drawn..... \$200 00

EXPENDITURE.

Balance from last term.....	\$67 48
Carpenters' work .....	4 80
Furniture and materials .....	64 70
Gas .....	6 48
Cleaning .....	32 88
Printing, etc .....	20 75

\$197 09

Moved by Mr. Love, seconded by Mr. Gunn, That the report be received. Carried.

Discussion took place on the report, when it was moved by Mr. Wm. Saunders, seconded by Mr. Love, That further discussion be deferred till the afternoon session. Carried.

The detailed statement of expenses incurred in respect to prosecutions was read.

Moved by Mr. W. B. Sanders, seconded by Mr. Love, That the report of the Infringement Committee be adopted. Carried.

Moved by Mr. Wm. Saunders, seconded by Mr. W. A. Gunn, That the Registrar be requested to write to Mr. J. E. Rogers, informing him that the resolution of the Council (passed February 1st, 1882), voting \$10.00 to the Public Prosecutor for each conviction, was intended to be limited to \$10.00 for each individual convicted, and in future is to be understood in that way, and in case Mr. Rogers declines to continue to act with this understanding, the Infringement Committee shall have power, with the consent of the President, to appoint some person in his place. Carried.

Moved by Mr. Saunders, seconded by Mr. Sanders, That Prof. Shuttleworth be allowed to explain change in the mode of reporting the result of the examinations. Carried.

Prof. Shuttleworth explained that he did not think it advisable to publish the ratings of students who had merely obtained sufficient marks to enable them to pass. The student was not benefited thereby, and sometimes unfavorable and undeserved remarks were made. He would recommend that the ratings be dispensed with except in the Honour List, where competition for prizes was involved.

It being 12 o'clock, on motion, the Council adjourned, to meet at 2 p.m.

#### AFTERNOON SESSION.

On resuming business, Mr. Gregory entered and took his seat, in the place of the late Mr. W. T. Bray.

Moved by Mr. Wm. Saunders, seconded by Mr. Harvey, That the report of the Examiners be adopted, and that in future the number of marks obtained be given only in the case of those who obtain 1st and 2nd prizes, and those who obtain the highest marks in the several branches—the remaining names to be published in two classes, one of which shall be known as an "Honour Class," to include all those who have obtained over 90 marks. Carried.

Moved by Mr. Robinson, seconded by Mr. Yeomans, That the questions given at the examinations shall not in future be printed in the JOURNAL. Carried.

Moved by Mr. Wm. Saunders, seconded by Mr. Henderson, That the report of the permanent Educational Committee be adopted. Carried.

Mr. W. B. Sanders gave the following notice of motion :

I beg to give notice that in the opinion of this Council, at the next meeting of this Board it will be expedient to introduce a resolution at its next session rescinding the by-laws of the College as they now exist, for the purpose of re-arranging them, by taking in all the amendments thereto.

Communications were read from the following: J. E. Farewell, respecting druggists not registering the sales of poisons. Elias Bremridge, conveying thanks of the Council of the Pharma-

ceutical Society of Great Britain for the Canadian Pharmaceutical Journal. Western Assurance Company complaining of the noise made by the students. George Suttie asking change of address from Orangeville to Toronto, which was granted by the Council. H. P. Gisborne, respecting the Pharmaceutical Journal; referred to the finance committee. Ex-Mayor McMurrich, That delegates be appointed to the citizens committee for the celebration of the semi-centennial of the city.

Moved by Mr. Love, seconded by Mr. Rose, That Mr. Harvey and our President be the representatives of this College to the semi-centennial of the city of Toronto to be celebrated in the year 1884. Carried.

Moved by Mr. Henderson, seconded by Mr. Wm. Saunders, That Mr. W. S. Robinson be placed on the finance, registration, and infringement committees, and that Mr. Gregory be placed on infringement and executive committees. Carried.

As there seems to be a misunderstanding as to the strict meaning of the motion, establishing a school of instruction in connection with this College, it was moved by Mr. E. Harvey, seconded by Mr. W. B. Sanders, That the only grant made to the professors of such school by the College shall be the necessary chemical apparatus, as the funds will permit, and the use of the College rooms with heat and gas. Carried.

The amended report of the auditors was read and on motion adopted.

Toronto, Feb. 7th, 1883.

*To the Council of the Ontario College of Pharmacy,—*

GENTLEMEN,—We the undersigned auditors appointed to audit the books and vouchers of the Registrar and Treasurer beg leave to report that we have compared the books of the Council of the Ontario College of Pharmacy and find them correct, but have to report that we have had no statement of the receipts and expenditure of the College of Pharmacy (teaching department) presented for our inspection.

All of which is respectfully submitted.

R. A. WOOD, }  
JOHN C. LANDER } Auditors.

Annexed please find statement.

Toronto, Feb. 1st, 1883.

*Statement of Assets and Liabilities of the Ontario College of Pharmacy.*

ASSETS.

60 shares Bank of Commerce stock.....	\$4050 00
10 shares Southern Loan.....	500 00
3 shares Peoples' Loan.....	104 00
Furniture apparatus &c.....	1500 00
Outstanding accounts .....	92 00

Cash in bank.....	688 81
	<hr/>
	\$6934 81
Balance of assets on hand.....	\$6230 61
LIABILITIES.	
Editor's salary .....	\$ 250 00
Registrar's salary .....	125 00
Journal.....	102 00
Advertising .....	7 20
Postage and examination supplies, say.....	20 00
Grant to Ed. Committee.....	200 00
By balance .....	6230 61
	<hr/>
	\$6934 81

On motion, the report of the Registrar-Treasurer was adopted.

Mr. Henderson read the report of the Committee on the Journal and Legislation.

#### REPORT ON THE JOURNAL AND LEGISLATION.

Your Committee beg to state that they have nothing special to report in respect to the JOURNAL, but would strongly urge upon the incoming Council the necessity of considering amendments to the Pharmacy Act, to be offered during the next session of the Provincial Legislature. A number of changes, rendered apparent by a prolonged experience with the practical working of the Act, are absolutely necessary, more especially with reference to the amount of the fines imposed by the present Act.

All of which is respectfully submitted.

JOHN HENDERSON,  
*Chairman.*

Moved by Mr. E. Harvey, seconded by Mr. W. B. Sanders, That Messrs. Hugh Miller and N. C. Love be the representatives of this College to the Industrial Exhibition for the year 1883. Carried.

Moved by Mr. W. B. Sanders, seconded by R. H. Perry, That in view of a resolution having been adopted by this Board, whereby it has been deemed expedient to enforce the provisions of the Pharmacy Act in their entirety, and as the promiscuous sale of poisons by unqualified persons has led to many accidents and suicides, and whereas the season is now approaching when large sales of Paris Green will be made, therefore be it resolved that the Registrar be instructed to publish in the daily *Globe* and *Mail*, in the same manner as last year,—“A Warning Notice to Illegal Vendors,”—and the editor of the JOURNAL be requested to ask the druggists throughout the Province, through that medium, to have the notice copied in their local papers. Carried.

Moved by Mr. Wm. Saunders, seconded by Mr. Yeomans, That whereas the mileage rate allowed to members attending this Council from a distance is fully sufficient to defray all travelling expenses, Resolved, that in future the members receive their daily allowance for expenses only for the days spent in actual session.

Moved in amendment by Mr. Harvey, seconded by Mr. Waugh, That the President be authorized to draw the funds necessary to remunerate the members of this Council for time expended in coming to, returning from, and attending the meeting. Carried.

The amendment was put and declared carried.

Moved by Mr. Harvey, seconded by Mr. Saunders, That a space not exceeding one page in the CANADIAN PHARMACEUTICAL JOURNAL be granted the Professors in connection with the School, free of expense for advertising purposes. Carried.

Moved by Mr. Harvey, seconded by Mr. Robinson, That the vacancy of Examiner in Prescriptions, caused by the absence of Mr. Wm. Brydon, be filled by Mr. A. F. Fraser for the balance of the current year. Carried.

Moved by Mr. Wm. Saunders, seconded by Mr. Harvey,

That the thanks of this Council be tendered our President for the satisfactory and courteous manner in which he has discharged the duties in connection with the office.

The resolution was unanimously carried by a standing vote.

On motion the Council adjourned.

Council adjourned at 5.15.

GEO. HODGETTS,

*Registrar.*

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## Original and Selected Papers.

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### AN EASY METHOD FOR ASSAYING THE CINCHONA ALKALOIDS.\*

By R. F. FAIRTHORNE, PH.G.

Dr. J. E. De Vrij has written very favorably of a process for determining the amount of alkaloids in cinchona, which depends chiefly upon the facts that they are dissolved out by means of a mixture consisting of ether, 88 parts; solution of ammonia, 4 parts; and alcohol, 8 parts. After maceration and separation the solution is evaporated to dryness leaving the crude alkaloids, which are purified by solution in acidulated water, filtration and precipi-

\*American Journal of Pharmacy.

tation by means of an alkali and resolution in chloroform, which upon evaporation leaves the alkaloids pure.

It occurred to me that as the alkaloids are soluble in chloroform, that the following process would yield good results with less trouble and expense, and after having tried it I find by comparing it with Dr. De Vrij's that as good a yield of the alkaloids is obtained. Two portions of the powdered bark taken from the same package were operated on by the two processes and with identical results. By my method 400 grains of calisaya bark in moderately fine powder were boiled for ten minutes with 5 fluidounces of water acidulated with  $\frac{1}{2}$  drachm of muriatic acid; when cool the liquid portion is filtered through absorbent cotton placed in the neck of a funnel, into which the powder having been transferred is rather tightly pressed, and two fluidounces of water poured on and allowed to percolate. This is added to the filtrate, and the powdered cinchona again boiled with 5 fluidounces of water acidulated with 30 minims of hydrochloric acid. This decoction is filtered in the same manner as the first, using the same funnel and cotton. The bark is then thoroughly exhausted by percolation with acidulated water, the acid used being muriatic in the proportion of 5 minims to the fluidounce. It required about 5 fluidounces to accomplish this. All the filtrates are now mixed and then refiltered through absorbent cotton. The filtrate is next thoroughly agitated with six fluidrachms of chloroform. When the chloroform has subsided the supernatant liquid is drawn off and the last portions carefully collected by means of a pipette. This operation is repeated with six more fluidrachms of chloroform. To the acid decoction is added solution of soda so as to render it strongly alkaline, and to this one and a half fluidounce of chloroform and well shaken. The latter having been removed to a tared capsule, the decoction is again agitated with six more fluidrachms of chloroform. This having been separated is poured into the capsule with the other portion of chloroform and allowed to evaporate at a moderate temperature. This leaves the alkaloids in a comparatively pure state, which weighed 16.20 grains.

The amount of alkaloidal residue left by De Vrij's process after evaporating the chloroformic solution was 16 grains. In order to obtain the active principles of the bark perfectly pure, dissolve this residue in 1 fluidounce of water acidulated with hydrochloric acid, agitated with 2 fluid-drachms of chloroform; remove this, and having added  $1\frac{1}{2}$  ounce of water and the same quantity of chloroform to the acid solution, render it decidedly alkaline by means of soda solution; agitate, remove the chloroform, to a tared capsule, and repeat the process with two more fluidrachms of chloroform, which, when removed, is to be added to the rest and evaporated.



By this means a satisfactory determination of the percentage of active principles of Peruvian bark can be obtained without much trouble. The freshly precipitated alkaloids are soluble in chloroform, which affords a convenient mode of separating them. The various steps of this assay will be readily understood. By boiling the bark in acidulated water the natural combinations of the alkaloids are broken up by means of the stronger acid. Agitation with chloroform in the first place, before the addition of the soda, removes any wax, resinous or oily substance present, and the subsequent treatment with a fresh portion after being rendered alkaline removes the alkaloids, whilst most of the coloring matter is retained by the aqueous portion. In order to save the chloroform distillation can be resorted to, care, however, being taken to remove any adhering alkaloid by repeatedly washing with chloroform the retort used.

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## Editorial.

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### THE U. S. PHARMACOPŒIA.\*

Before entering upon a review of the changes embodied in the Sixth Decennial Revision of the U. S. P. we may be allowed to congratulate our American friends on having produced a work which we think will be universally ceded to be the best of its kind in the world. It has, no doubt, its faults; but, speaking generally, is deserving of the highest praise as an exponent of scientific and advanced pharmacy. The Committee of Revision have done their work thoroughly and well, and shown conclusively that the preparation of a pharmacopœia can only be accomplished by the aid of pharmacists. The mechanical arrangement and typography of the work are excellent, and reflect credit on the publishers. The price, four dollars, is, we think, a little high, and, perhaps, might have been somewhat reduced, more especially as a very large sale may be anticipated.

Our readers have, from time to time, been made acquainted with the progress of the work of revision as performed by the committee appointed by the National Convention of 1880. The able report prepared and compiled by Mr. Charles Rice, in the latter part of that year, put the work into shape, and was, no doubt, mainly instrumental in bringing it to a successful completion.

\* New York: Wm. Wood & Co. 8vo., pp. 520.

The old plan of dividing the subjects into the two great classes of "Materia Medica" and "Preparations," has been abandoned, and an alphabetical arrangement adopted, as in the B. P. Chemical formulæ are also given according to the old and new systems, as in the British authority, but with the addition of the combining weights. Chemical nomenclature was brought into accord with modern views of the constitution of salts in the revision of 1870, and the names then adopted have been continued. For instance, "Potassæ Carbonas" of the older authority, and still of the B. P., became "potassii carbonas." The names of alkaloids are also made to terminate uniformly, in *ina* in Latin, and *ine* in English, while non-alkaloidal vegetable principles terminate in *inum*, or *in*, as the language used may require. Thus we have *quinina* and *quinine*, and *lupulinum* and *lupulin*.

The most important change is undoubtedly that of abolishing the old systems of weights and measures, and substituting parts by weight—as in some of the pharmacopœias of continental Europe—and, in some cases, as the formulas for fluid extracts, the substitution of the metric system. There can be no doubt that this step is in the right direction; but, like all other great changes, the transition is necessarily abrupt, and, at first, very inconvenient and provoking. Whether the pharmacists of the United States will take kindly to this arrangement remains to be seen, but we fancy it will for some time be the cause of much profanity. However, a few years will reconcile all these difficulties, and a great advance will have been made.

Another improvement is the remodelling of the formulas on a percentage basis; thus, the formula for tincture of rhubarb is: rhubarb, 10 parts; cardamon, 2 parts; diluted alcohol to make 100 parts; all, of course, by weight. This will greatly simplify the strength and posology of the preparations, and bring into systematic shape a subject which has hitherto been totally unmanageable. The question may be asked as to the effect of this change on the strength of the older preparations. We answer, much less than would have been anticipated. There are only 74 cases in which the change in strength is over one per cent., and many of these are not of great importance. There are, however, also a number of preparations which will, for some time, require much attention on the part of both physician and pharmacist, as extract and tincture of aconite, tincture of cannabis, conium, nux vomica, opium, stra-

monium, veratrum viride, ginger and others, in which the difference in strength between the old and new compounds is very considerable, and must be carefully borne in mind.

The vexed question of posology has been altogether avoided, doses being in all cases omitted. Temperatures are stated in degrees centigrade, with Fahrenheit in brackets. The example of the B. P. has been followed in regard to the preparation of chemicals, the directions being, in general, left out, and the characters, impurities and tests given.

The list of articles dismissed is a very long one. The Committee have been merciless in this respect. Let us hope they have done wisely and not too well. Amongst the drugs and compounds that have been dropped we may mention oxalic and valeric acids, alcohol s.g. 835, Barbadoes and Cape aloes, ammonia alum, castor, aromatic confection, conium leaves, gold thread, decoction of cinchona, with nine others; extract of belladonna leaves, jalap and twelve others; all the former glycerites; twenty-nine infusions; camphorated oil; poppy heads; all the former suppositories; a number of tinctures, including jalap; ointment of red iodide of mercury, and six others; white hellebore; and port and sherry wines. In justice to the two latter articles we must say that their place has been taken by vinum album and rubrum, not necessarily European in origin, and not containing more than 12 or less than 10 per cent. of absolute alcohol.

The loss of the articles dismissed is more than made up by new drugs and preparations. The first new title that catches the eye is the class of "abstracts," including aconite, belladonna, conium, digitalis, hyoscyamus, ignatia, jalap, nux vomica, podophyllum, senna and valerian. These may be said to be prepared by making an alcoholic fluid extract of the drug, mixing it with sugar of milk, drying at 122 F., and powdering the product, using sufficient sugar of milk to make one part of the "abstract" equal to two parts of the drug. These preparations may therefore be considered as being analogous to fluid extracts, but in the solid form, and of double the strength. Time alone can tell whether they will prove permanent, convenient and acceptable. Thirty-six fluid extracts have been added to the former list. The old standard strength of a troy ounce in a fluid ounce, has, we think, been unwisely changed, so that 100 grams of the drug are contained in 100 cubic centimeters of extract. This is equal to decreasing the

strength about 5 per cent., as 100 troy ounces would be contained in about 104 fluid ounces. It would have been much more consistent with the plan of the new pharmacopœia, which in other cases has adopted the system of parts by weight, if fluid extracts had not been made an exception to the rule. Had the rule been so that one part of the drug by weight represented one part of the extract by weight, that is weight for weight, it would have been much more simple, uniform and convenient than the present arrangement.

Amongst the additions we notice hydrobromic, oleic, and salicylic acids; acetic ether; nitrite of amyl; diluted nitrate of silver (50 per cent. nitrate of potasium); petroleum benzin; citrate of bismuth and ammonium; monobromated camphor; sulphate of cinchonidia; isinglass plaster; coca, (under the title erythroxyton); eucalyptus; buckthorn bark; grindelia; guarana; witch hazel; star anise; malt; jaborandi, (pilocarpus); pulsatilla; quillaia; green soap; sumbul; thuja; thymol; corn ergot; viburnum; and viola tricolor. The much vaunted class of elixirs, has, undoubtedly, been treated with much disfavor, as the sole representative is elixir aurantii, made with oil of orange, sugar, alcohol and water. Several ox gall preparations have been included, as also ammoniated glycyrrhizin, liquid and saccharated pepsin, some compounds of lithium, a number of oils, as eucalyptus, santal, myrcia, mustard, and phosphorated oil. Our antimonial and chalk powders, and the compound licorice powder derived from Germany are also made official. Syrup of lactophosphate of lime, and Easton's and Churchill's syrups are represented, besides a number of new tinctures, ointments, and wines.

Methods of preparation have undergone a complete revision and been brought into accord with modern practice. The Committee have taken large advantage of pharmaceutical literature, and we are pleased to notice have adopted the method of oxidizing ferrous salts first published in this JOURNAL.

We have said sufficient to give the reader some idea of the new book, and it would probably be useless to go further, as those who are truly interested in their profession will, no doubt, form an acquaintanceship with the work for themselves.

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## REGISTRATION OF POISONS.

A letter from a county crown attorney, produced at the Council meeting, was handed to us with the intimation that the at-

tention of registered druggists should be directed to the necessity of a more thorough registration of sales of poisons.

The official referred to writes, "From my experience in criminal matters, where I have had to examine books kept by druggists, I am satisfied that there is great neglect in this respect." An instance is given in which the writer is at a loss for information respecting evidence of the sale of a certain medicine which was used for the purpose of procuring a miscarriage.

We hope that our readers will be careful in this respect, as a druggist having sold without registration, that is, unlawfully, any deleterious or poisonous article, which was afterwards used for some criminal purpose, might find his legal responsibility greater than indicated by the infliction of a fine.

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### SALE OF PARIS GREEN.

The trade in Paris green is about commencing, at least dealers are beginning to lay in supplies, and we are glad to see that the Council have resolved to re-commence the crusade against illegal vendors. To this end it has been resolved that warning notices to such parties are to be inserted in the *Globe* and *Mail*, and we have been requested to ask members of the College to use their influence in having the local papers direct attention to the subject, and, if possible, insert copies of the notices.

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### BRANCH STORES.

Ever since the Act came into force there has been much disagreement of opinion as to the position of those who keep open more than one place of business. It has been generally affirmed, and acted on, that every branch store must be registered, and a certificate obtained. This view we have always opposed on the ground that as a qualified druggist is only by law required to take out one certificate, he can only display it in one place at the same time, and that the certificate is an evidence of the qualification of the owner, not of any particular right appertaining to the business itself.

Pending a threatened action of law on this question an opinion has been obtained from the solicitors of the College, Messrs. Mowat, Maclellan, Downey & Biggar, and no doubt will set the

matter at rest. For future reference we reproduce the document entire :

We have considered the case submitted to us by the Registrar of the Ontario College of Pharmacy and our opinion is as follows :

By section 25 of the Pharmacy Act, no person is allowed to carry on the business of a chemist or druggist without being under the corporate seal of the College, signed by the Registrar, in the form prescribed by the Act. The certificate is an annual one, and must be taken out annually in order to continue the qualification. (Sec. 19.)

By section 21 none but registered persons or their employees shall be authorized to compound prescriptions.

In other sections of the Act the Legislature recognises persons engaged in the business of apothecaries, chemists and druggists, as clerks, assistants and apprentices.

It is evident, therefore, that a druggist may have any number of clerks, assistants and apprentices in his business, and there is nothing whatever in the Act attempting to define the amount of personal attention and superintendence to be given by himself. The responsible owner of the business must be a qualified person, but there is nothing to limit the magnitude or extent of the business which any one qualified person may carry on, unless section 23 has that effect.

Section 23 declares that every chemist carrying on business on his own account shall display his certificate in a conspicuous position in his place of business.

Without this section it seems quite plain that one person, if duly qualified, might not only have a single establishment, of any magnitude or extent whatever, but might also have any number of establishments, so long as they were carried on bona fide for his own benefit ; and the question is whether section 23 restricts every qualified person to one place of business, because the certificate can only be displayed in one place.

We are of opinion that section 23 has not this effect.

The certificate is not itself the qualification ; it is merely the evidence of it, and we see no reason why the Registrar should not grant one to a qualified person as often as he reasonably requires one. Suppose a man's certificate was lost or destroyed or burned in case of a fire in his store, or stolen, we think it clear that he might demand another, and could compel the Registrar to grant it and could compel the Registrar to grant it on payment of a reasonable fee for the mere issuing of it. The Registrar might make it duplicate or triplicate, and so on, but he could not withhold it altogether. So also if a qualified person opened a second store and applied for a duplicate in order to comply with section 23, we think it clear the registrar might grant it, and would probably be compelled to do so.

But if a person has no right to more than one certificate, then we think he sufficiently complies with the law when he does with that one what section 23 requires, namely, displays it in his place of business. He can only display it in one place, and when he has done that, he has done all the law requires.

The statute nowhere says it shall be illegal to have a place of business without a certificate displayed therein, but merely directs what is to be done with the certificate which he receives.

This view is, we think, further favored by Section 29, which makes it highly penal to transgress any of the provisions of the Act. If the Legislature had intended to make it illegal and punishable for one person to have more than one store, it would have said so in plain terms, and not have left it to obscure inference from a section of the Act on another subject.

Section 14 of R. S. O. C. 181, the Liquor License Act is an example of the clear manner in which the Legislature has expressed its meaning in an analogous case.

We are further of opinion that only one fee is payable on the renewal of the certificate from year to year, even though the party should apply for and receive several certificates.

[Signed.] MOWAT, MACLENNAN, DOWNEY & BIGGAR.

Dec. 14th, 1882.

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## ONTARIO COLLEGE OF PHARMACY.

### LECTURE ANNOUNCEMENTS.

The third semi-annual term will commence on Tuesday, March 13th, at the College Rooms, Western Assurance Buildings, corner of Scott and Wellington streets. Lectures will be delivered every morning of the week, from nine o'clock until noon, and afternoon classes will be held from time to time.

On Tuesday, March 27th, at 8 o'clock, an evening lecture will be delivered by J. H. Pearce, Esq., on Sponges and the Sponge Fisheries. City and visiting druggists and their friends are invited to attend, and as the lecturer has made this branch a special study, a very interesting time may be anticipated. An introductory lecture was delivered, during a former term, by the same gentleman, and the anatomy and physiology of sponges thoroughly described. The coming lecture will be of a more practical character and have especial reference to the commercial bearing of the subject.

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## THE COLLEGE PRIZEMEN.

There was a hard struggle for first places during the last examination, the candidates manifesting much more anxiety on this score than that of merely passing. Two gold medals, offered re-

spectively by the professors of chemistry and materia medica, for those who obtained the highest marks in these subjects were keenly contested, and ultimately carried off by Mr. Ernewein, of Mildway, and Mr. Coombe, of Clinton. The College first and second prizes were taken by Mr. May, of Toronto, and by Mr. Penny, of London. All these gentlemen took very high marks, and the proficiency shown by the candidates generally was far above the average.

It will be noticed that by a resolution of the Council that the publication of examination questions is to be discontinued, and the ratings of all students, except those who obtain prizes, are not to be given to the public. All who obtain 90 marks, (75 per cent.) and over, are to be set down on the "honour list," and those from 80 to 90 marks on the "pass list." This is a wise regulation, as those whose names were at the foot of the enumeration often received very questionable praise, though as the percentage to pass is so very high, it is exceedingly creditable to get through at all.

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### PHARMACEUTICAL DINNER.

A complimentary banquet tendered to the Faculty by the students of the Ontario College of Pharmacy in attendance during last term, took place on Friday evening, February 2nd, when about fifty sat down to table. The chair was occupied by Mr. J. S. Anderson, with Mr. Frank W. May in the vice-chair. The guests, of course, embraced the faculty of the College, with a number of other gentlemen, including Mr. Yeomans, of Belleville, Mr. Gregory, of Lindsay, and Messrs. Robinson and Hodgetts of Toronto, also Dr. Geikie and others.

After the usual loyal toasts had been disposed of, "The Faculty—The right men in the right place," was proposed by the chairman, and responded to by Professors Shuttleworth, Rose, Montgomery and Smyth. The Profession—"May its responsibilities always be met," was proposed by Mr. A. W. Abbott, and responded to by Messrs. Gregory, Yeomans, Robinson and Hodgetts. The Medical Profession—"Siamese twin with pharmacy; may surgery never sever the connection," proposed by the vice-chair, was responded to by Dr. Geikie, who spoke more particularly on behalf of the medical schools of the city. Mr. J. Hargreaves, gave Our Guests—"May they receive our medicines as they receive our *menu*," and Mr. M. C. Wild responded. The toast of the ex-students, "May they never forget the experiences of undergraduates," was proposed by Mr. Fred. Burgess, and responded to by Mr. J. Benson. The Press, "The Laboratory of society," was proposed by Mr. Coates, and acknowledged by members present, and the final toast of the evening, The Ladies, "God bless them! The longer we live the



better we like them," was given by Mr. M. Macpherson, while Mr. J. H. Dickey and Mr. Oscar replied on behalf of the absent fair.

The company broke up about midnight after having spent a most enjoyable evening, every one apparently being thoroughly satisfied that the students' first dinner had been in all respects a success.

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## Editorial Summary.

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A PHARMACY Act has been introduced by the Bombay Government, but is meeting with some opposition from the native druggists.

SOME experiment made by Mr. B. F. Schol, (*Am. Jour. Pharm*) show that styrax is not as effective as benzoin for the preservation of ointments.

THE average quantity of cotton seed oil produced annually in the United States amounts to about 26,000,000 gallons, obtained from 600,000 tons of seed.

TEN tons of linseed meal are used annually for poultices in one of the largest London (Eng.) hospitals, and the yearly bill for lint foots up to over two thousand dollars.

ASTHMA cigarettes, made by impregnating tobacco with fluid extract of grindelia, drying, and rolling up in the usual way, are recommended by the Boston *Journal of Chemistry*.

A CHEMIST in Burslem, England, recently sold by mistake, to an unknown person, poison for magnesia, and adopted the curious expedient of employing the town crier to announce the fact.

MARTIN'S *Chemists' & Druggists' Bulletin* has been brought out as a semi-monthly by Professor Bedford, of New York, under the new title of the *Pharmaceutical Record*. Its appearance is much improved by the change.

DR. FR. HOFFMAN, of New York has just issued the first number of a new pharmaceutical journal in the German language. It is styled *Pharmaceutische Rundschau und Zeitung*, the subscription being two dollars a year.

IT is said that the spent hops of breweries are being bought up in England, and, when dried, are again put upon the market. It is an interesting question to consider what class of intelligent dealers become the purchasers.

AN infant belonging to Thomas W. Hunt, of the township of Hope, was accidentally poisoned during the early part of the month by the servant girl, who gave the child a spoonful of carbolic acid in place of soothing syrup.

FOR making permanganate of potassium into pills, B. S. Proctor (*Pharm. Jour. & Trans.*), recommends China clay and water. The pills keep well, and disintegrate readily in water, yielding the permanganate unchanged.

The relation between protection and purgation in the United States is pointed out by the *Quinologist*, which says that while the price of castor oil in London is 5 to 6 cents per pound, it is quoted in the U. S. market at from 13 to 16 cents. The duty is 200 per cent, *ad valorem*.

DR. S. RINGER says in the *Practitioner* that solutions containing lime cause the ventricle of the heart to dilate very slowly after each contraction, and that veratria produces the same effect, while potassium salts prevent it. Hence it is supposed that the latter is antagonistic to the former.

"CONSIDERABLE excitement," says a late associated press despatch, "has been caused at Bayview, Wisconsin, by the discovery that a drug clerk had been selling tincture of aconite for whisky. A man died suddenly from the effect of the drug and several mysterious deaths of recent occurrence will be investigated."

DR. PODWISSOTZKI, (*Pharm. Zeit. fur Russ.*) has made an examination of the asthma remedy *Lippia Mexicana*, and finds it to contain tannin, a coloring principle, essential oil, and a peculiar camphor, *lippiol*, to which he attributes the medicinal virtues of the plant. It dissolves readily in alcohol.

CARBON bisulphide may, according to P. Palmieri, *Zeitschr. Anal. Chem.*) be readily purified by agitation with about three per cent. of sulphate of copper deprived of its water of crystallization. When the copper salt has blackened and deposited, the liquid may be filtered, or better still, rectified from a little fresh sulphate.

It is claimed that a process has been devised whereby glass toughened by the method of Bastie, can be made so as to bear cutting and polishing, and to be no longer subject to that tendency to fly to pieces—even without provocation—that has hitherto been the great defect of the Bastie glass.

It is a mistake to say that Manitoba is the coldest inhabited place in the world. A French journal, recently discussing extreme temperatures, instanced Verchojansk, Siberia, as more likely to take the prize. The thermometer has fallen as low as 81° below, and the mean February temperature is 56° below. This is mean enough.

MR. C. MILLER, in the *Columbus Medical Journal*, raises the question whether the physician is responsible for accidents due to the omission of the dose or directions on prescriptions. The writer arrives at the conclusion that the druggist is, in such cases, free from blame, and that the physician is solely responsible.

ACCORDING to a quotation from Dr. Morrison, of Baltimore, in a paper by Dr. Aikins, in the *Canadian Practitioner*, the bacteria of syphilis are in the form of cylindrical rods, generally crowded together in groups, having always the same form, and, when properly stained, distinctly visible under an oil immersion lens of a fifteenth, magnifying 850 diameters.

MANUFACTURING chemists use a sheet of stout rubber as an air-tight cover for jars, percolators, etc. The idea has been turned to good account by the Goodyear Rubber Co., who are selling such covers as circular discs with a strap handle. Their principal proposed use is for covering chamber utensils, and no doubt they will answer well, if, in time, they do not themselves become fetid.

A TOOTHACHE remedy consisting of one drachm each of the spirits of chloroform, ether and camphor, and tincture of opium and iodine, directed to be used on a pledget of cotton inserted in the hollow tooth, nearly occasioned the death of a stout girl of 18 years of age, who used the remedy several times. Stupor was produced from which she was with great difficulty aroused.

AN item appeared lately in the *Toronto Mail* to the effect that several persons residing at Regina, N. W. T., very nearly passed into the long sleep last week under the influence of morphine taken in mistake for quinine. It appears that the drug was put up in Philadelphia and labelled "quinine," and that the mistake therefore is wholly attributable to the wholesale dealer.

THE reason that butter becomes rancid is stated by Dr. Hagemann to be on account of the small amount of milk sugar that it contains. This changes into lactic acid, which then decomposes the glycerides, liberating fatty acids. The transformation of milk sugar into lactic acid is like everything else now-a-days, effected through the agency of bacteria, and the remedy is plainly the destruction of the vitality of the germs.

THE flowers of the wild sunflower, *Helianthus annuus*, appear to be in a measure independent of the daily motion of the earth, and gaze steadfastly at the sun while he is in sight. When he sinks below the horizon they quickly turn their faces to the east so as to be in correct position directly the orb shows itself at dawn. Mr. C. A. White, who, in *Nature*, calls attention to this fact, says that the motion of the flowers is regular during the day, but in one hour after sunset they have turned again to the east.

THE pharmacists of the United States are already beginning

to rebel against the system of parts by weight made official in the new Pharmacopœia. They want "less science and more sense," as one druggist puts it. Another heretic calls the book an "outrage on pharmacists," and indulges in other disloyal expressions. No doubt there will be a great outcry on the part of conservatives who oppose all innovations, as well as those who care nothing for science or system, provided their own ends are easily served.

THE question as to how essence of musk should be prepared, although apparently simple, is difficult to answer. The strength of spirit to be used is very variously stated; whether a preliminary digestion with hot water is advisable; or percolation or maceration preferable, are disputed points, as also whether it is not advisable to use a little alkali, as ammonia. The latest suggestion was made by Mr. W. A. Wren, President of the Chemist Assistants' Association, England, who recommends the addition of a small quantity of acetic acid. There is room for experiment on this subject.

A COMMITTEE of Congress have been lately discussing the advisability of permitting the manufacture of methylated spirit under similar conditions to those in force in England and in this country. It is stated that in the United States, last year, 4,269,978 gallons of alcohol were used for manufacturing purposes. The fact that an enterprising firm in Kingston, Ont., has been doing a large trade with the U. S. in shellac varnish made from methylated spirit, has awakened the authorities of their position in the matter, and having placed a heavy duty on the Canadian article they now seek to arrange matters for their own manufacturers.

CHEESE making is an industry altogether unknown in India, and though cheese might be produced profitably, it is said that it would not meet with any sale in the country, on account of the religious scruples of the natives, who would not touch it on account of being made with animal rennet. A Government official lately reported on this fact, and experiments have been made to find a rennet of a mineral and vegetable character. Professor Church found chloride of calcium and vegetable acid could not be successfully used, but Surgeon-Major Aitcheson while engaged at Kew, announced the fact that an Indian plant, *Puneeria coagulans*, belonging to the Solanaceæ, possessed the desired qualities. It is known among the Afghans by a name meaning cheese maker. Sir J. D. Hooker is interested in this subject, and it is from his Report of the Royal Gardens at Kew that we learn the above particulars.

OIL of turpentine is one of the latest remedies for diphtheria. The *Phila. Med. & Surg. Reporter* says that the use of this agent originated with a German apothecary, who experimented on his own daughter. The remedy has been highly praised by different authors and the most miraculous results are attributed to it. The rectified oil should be used, For children, the dose is a teaspoonful;

for adults, a tablespoonful morning and night, either mixed with or followed by milk. "Within half an hour after the administration of the drug, a bright redness begins to spread from the margin of the exudation, and this redness becomes gradually diffused over and taking the place of the false membrane. The disease is said to disappear within twenty-four hours, without leaving the slightest trace." It is recommended particularly at the outset of the attack, but is also efficacious, though less rapidly, when the disease has progressed for several days.

THE druggists of the State of New York are considerably excited over a circular of a wholesale grocer in the city, showing the advantages to be derived from retail grocers engaging in the sale of drugs and medicines. The articles which might be sold are enumerated, and embrace such as quinine, morphine, laudanum, paregoric, tincture of iron, iodine, and a host of others, "which if you would stock in a small amount, and let it be known to your trade, you would soon have a regular steady trade." The outlay and profits are thus put forward: "One hundred dollars would give you quite a snug little stock of family drugs and medicines, and if you will take our advice and try it you will surely be grateful with the results. The profits run from 50 to 200 per cent., and although the sales will not be large compared with your grocery sales, still the profit will help out many a close article like sugar." No wonder the druggists are in arms against this proposal. Their remedy lies in a stringent pharmacy act, such as that in force in the city of New York, and we understand they are trying to meet the difficulty in this way.

MEAT may be preserved fresh for several weeks if suspended in an atmosphere of carbonic acid gas. Professor Kolbe, who details in the *Chemiker Zeitung* his experiments on this method, found that fresh meat which had been thus exposed—even in a position in which the thermometer rose sometimes to 90° F.—was perfectly good at the end of a week. In two weeks it required a sensitive palate to distinguish any difference in the taste of broth made from this and fresh meat. In three weeks the meat was still fresh, but the broth had a slightly acid taste, and in four or five weeks there was still an absence of all putrid smell, but the broth made was not as good as *bouillon* from fresh beef, and the experiments were not continued. Veal will not keep so long as beef, and fish, oysters, and fruit can only be preserved a short time. Prof. Kolbe's method might, perhaps, be turned to some account by keeping meat during transport across the Atlantic. Air-tight compartments, with apparatus for the generation of the gas, could be easily fitted up in steamships. As the voyage seldom exceeds two weeks the plan appears to have some of the elements of practicability in it.

EXPERIMENTS made by Pierre Miquel, of France, a notice of which is to be found in the *Pharm. Jour. & Trans.* for Feb. 3rd, show that the number of bacterial germs in the air of Paris hospitals is enormous, ranging from 15,600 in the cubic meter, in the winter months, to 4,500 in summer. The difference in these numbers is to be accounted for by better ventilation in warm weather. In the air of Paris the greatest number of germs is to be found in summer—1540 in June and only 750 in March. Probably the hospitals may be regarded as germinating houses, and when the windows are opened in summer the crop is distributed. There is, perhaps, some truth in this as Miquel says he believes that the presence of hospitals in large towns is a prolific cause of infectious diseases, such as small pox, scarlet fever, diphtheria, erysipelas, typhus, &c. Sanitary statistics of the weekly mortality in Paris showed an exact relationship to the number of germs in the air. The most common germs were those of micrococcus, 93 per cent.; 5 bacillus, and 2 per cent. bacterium. In Paris the number of germs was ten times greater than at Montsouris, where similar experiments were made.

MR. W. A. SHENSTONE has been making some researches on aloin, the result of which he gave at a recent evening meeting of the Pharmaceutical Society of Great Britain. His experiments were especially directed to ascertain the nature of the crystalline principle of Jafferabad aloes. This body was found to be identical with the aloin from Zanzibar aloes. The writer recognizes the inconvenience of giving a new name to every fresh variety of aloin and makes an excellent suggestion—that those of kindred constitution and properties be grouped together, thus nataloin, from Natal aloes, differs so distinctly from all the rest that it may be allowed to stand by itself. Zanaloin, from Zanzibar aloes; Socaloin, from Socotrine aloes; and Jafferabad aloin from the drug so derived; may be classed with barbaloin from Barbadoes aloes. The latter is, however, reddened in the cold by strong nitric acid, and may be classed as *a* barbaline; while the other varieties, which are not colored by cold nitric acid, may be known as *b* barbaloins. This difference is not insisted on, and for general purposes we may therefore divide these bodies into nataloin from cape aloes, and barbaloins from all other varieties.

THE botanical source of the *Cassia lignea* of commerce has, until lately, been involved in obscurity. Fluckiger & Hanbury, and also Bentley & Trimen, thought that the bark might possibly be referred to *Cinnamomum cassia*, and from recent investigations this appears to be correct. Mr. Dyer, assistant director of the Royal Gardens, Kew, recently read a paper before the Linnean Society, in which he referred to the investigations of Mr. C. Ford, of Hong Kong, who, last year, went on an expedition to the cassia plantations, in order to obtain information on the subject. He

found these plantations to be located in three districts, Taiwu, Lukpo, and Kwangsi. The area under cultivation is very large, and the industry has been carried on from time immemorial. The bark is stripped from the branches, which are about an inch thick, and detached in two pieces of about sixteen inches in length. While still moist it is laid with its concave surface downwards and the epidermis is removed with a small plane. It is then tied into bundles and sold to the merchants. The leaves which are cleared from the branches are carefully dried, and chiefly sent to Canton, where they are distilled for their oil. The twigs are a marketable commodity for native use. Cassia buds are the immature fruits, and are gathered when about one-eighth grown.

SOME few weeks ago when in conversation with Mr. Gregory, of Lindsay, he asked whether we had any experience with a peculiarly pungent compound developed in tincture of iodine made from methylated spirit. He said that he was once requested to make such a tincture for veterinary practice, and noticed the extremely irritating effect produced on the eyes by the vapor. He promised to make some experiments for the benefit of our readers, but, strangely enough, we notice in a recent number of the *Pharmaceutical Journal & Transactions*, the report of a paper read at an evening meeting of the Scotch branch of the Society, in which this very subject was brought up for discussion. The writer, Mr. P. MacEwan, had noticed the same effect as Mr. Gregory, and, on investigating the matter, found that, in all probability, the irritating body is formed from impurities in the wood naphtha used in making methyl spirit. With pure naphtha this substance is not produced, and as ordinary wood spirit contains allyl alcohol, it is likely that the pungent body is one of the iodo-allyl compounds. Several members present at the meeting above referred to, had noticed this peculiar body and further experiment to determine its identity are promised.

MR. ROTHER, who is certainly fertile in ideas, has hit upon a novel mode of making deodorized tincture of opium, which he describes in the February number of the *American Journal of Pharmacy*. As our readers well know, previous methods have proved troublesome and very wasteful. The writer assumes that the resinous and odorous principles of opium are those to be removed, and recognizing the general solubility of bodies of these classes in oily menstrua proposes to substitute such substances for the ether usually employed. He fixes upon a mixture of equal parts of vaseline and spermaceti, the latter being added to impart stiffness and thus facilitate separation. Powdered opium is boiled for ten or fifteen minutes with four or five times its weight of water; vaseline and spermaceti, equal, together, to four-fifths the weight of opium, are added and stirred well. The mixture is

then allowed to cool, and the liquid poured off the dregs, which are then twice heated with more water in the same way. All the liquors are mixed and about twenty-five per cent. of alcohol is added, and brought to a definite bulk with water. The strength of the U. S. P. tincture is  $2\frac{1}{2}$  troy ounces of powdered opium to 32 wine ounces containing seven ounces of alcohol.

"SOME delusions regarding the oyster" is the title of a paper by Dr. C. L. Dana, of New York, in the *Philadelphia Medical and Surgical Reporter*. The doctor is a lover of truth but not of oysters or he would never have laid bare what he is pleased to term fallacies attached to our ideas of the delicious bivalve. It is a common belief, very consoling to those of feeble digestions, that the oyster, when taken into the stomach, executes, by virtue of hepatic diastase, a kind of *felo de se*, and digests itself. The doctor has tried the experiment, and put oysters, whole and masticated, into water, plain, alkaline and acidulated, and finds the result *nil*, except in the case of the acidulated water, when prolonged digestion caused a softening of the liver of the bivalve. Fallacy number two—that raw oysters are always more digestible than when cooked—is not borne out by artificial digestion with pepsine. The oyster stew, being composite in character, is, however, not quite as readily managed by the stomach as raw oysters or those roasted in the shell. Delusion number three—that fermented liquors digest or assist the digestion of the bivalve was not borne out by fact, nor was the oft cited experiment, that an oyster dropped into a glass of beer will dissolve, found to be correct. As general conclusion we must reluctantly concede that the oyster is a mocker, but, like some other delusions sometimes associated with it, will still be indulged in by ordinary mortals.

THE Year-Book of Pharmacy is again to hand and contains, as usual, a summary of pharmaceutical progress during the year, and also a full report of the proceedings of the British Pharmaceutical Conference and the papers presented. The work is of about the same size as the volume that preceded it but is, we think, more interesting. The abstracts of papers, both in this publication, and that issued by the American Pharmaceutical Association, become every year more indispensable to the progressive pharmacist, who, by the use of the index, can trace out any subject in which he is specially interested, and, for fuller information than that afforded, which for ordinary purposes is indeed seldom required, is at once referred to the original source. The work in this department performed by Professor Seibold has been very thoroughly and ably performed. In looking over the progress of the year we must confess to a feeling of disappointment, if not of shame, that Canada contributes so small a share. This is, of course, a new country, and pharmacists



have not much leisure to follow out the more scientific part of their profession, but the same may be said of the United States, and yet contributors from that source are immeasurably more numerous. We hope that the influence of the teaching college here will affect this matter, and we feel encouraged that such will be the case however, to return to the subject in hand, the abstracts take up about three hundred pages of the Year-Book, and the remaining three hundred pages are devoted to a record of the Proceedings and the papers. The members of the Conference now exceed 1000, among whom are a number of gentlemen resident in Australia and various other British colonies. The annual subscription is 7s. 6d. due on July 1st, which entitles the members to a copy of the Year-Book. The price to non-members is 10s. so the circulation may be said to be restricted to subscribers. We should be glad to see Canada figuring in the list, for although by situation we are more closely related to the United States, we must not forget the land to which we are bound by the dearest ties, and to which we are moreover pharmaceutically linked by a common Pharmacopœia. By belonging to both the British and American Associations all scruples as to nationality will be removed, and this plan we recommend to our readers.

THE essay on powdered rhubarb which secured the \$200 prize offered by Messrs. Allaire Woodward & Co., druggists, of Illinois, and which was written by Mr. G. W. Hayes, of Philadelphia, contains much interesting and valuable information, but is too lengthy to be reproduced in this Journal. We may be allowed to briefly summarize the principal points, first stating that the experiments on which the essay is based were made upon thirteen samples of commercial powdered rhubarb, one of which was of known purity. The tests may be classed under the following headings: color, smell, action in the mouth (grittiness or stickiness,) infusion, decoction, alcoholic tincture, chloroformic stain, yield of solid aqueous extract (the U. S. Government test) moisture, solubility in cold water, Rillot's test for Rhapontic rhubarb, quantity of mucilaginous matter, quantity of cathartic acid, quantity of chrysophanic and tannic acids; and microscopical appearance. It was assumed that the purgative value of rhubarb depends on cathartic acid, and its tonic and astringent properties to chrysophanic and tannic acid. Physiological tests with eight grains of each sample appear to show that this view is correct. Thirty three per cent., of the samples were found to be adulterated with Rhapontic rhubarb, and seven per cent., were colored with turmeric. From a review of all the results of the tests it appears that none of the indications were of much value except the test for Rhapontic rhubarb, and the actual determination of cathartic and astringent matter. Other tests were made and found valueless—as Squibb's test by exposing the powder to air and light for two weeks. Good rhubarb should not be

bleached, but it was found that all the samples became darker in color. Dragendorff's test for chrysophanic acid, by petroleum ether, which indicates that good rhubarb gives a colorless solution, while that from Rhapontic is yellow, did not answer, as all the samples gave a bright yellow solution. Normandy's test for gamboge also failed. The course of analysis which is essentially that of Mr. Greenish (*Pharm. Jour. and Trans.* May 1879,) may be briefly described: 100 grains of the drug is exhausted with cold distilled water; the percolate evaporated to 33 c. c.; when cool 33 c. c. of alcohol are added, and the mixture is shaken, and then set aside for 24 hours. The precipitate washed with alcohol and dried represents the mucilaginous matter. The filtrate and washings are evaporated to dryness, and dissolved in alcohol, with as much water as will make a clear solution of 15 c. c. 120 c. c. of absolute alcohol are added, and set aside for 24 hours. The precipitate washed with alcohol, and dried, represents the cathartic acid present. The filtrate is now evaporated to dryness, dissolved in distilled water, and sufficient alcohol added to make a clear solution 30 c. c. It is then precipitated with pure acetate of copper, washed with a small amount of distilled water, dried and weighed. It consists of a mixture of chrysophanate and tannate of copper, containing an average of 26.82 per cent. of oxide of copper. The standard sample of rhubarb did not turn out to be so rich in cathartic acid as some others. The quantity obtained was 9.85 per cent. with 15.5 of chrysophanic and tannic acids; another sample gave 11.50 and 16.2, and another 13.7 and 7.2, while one of the samples assayed as low as 5.3 and 4.1, respectively. The prices at which the powders were sold—from 35 cents to one dollar a pound afforded no indication of quality, two low priced rhubarbs being perhaps as good as any. Another practical conclusion our readers may draw from these experiments is that the estimation of rhubarb is a difficult undertaking, and not to be accomplished without tedious and careful labor.

**FLOWERS PRESERVED FOR THREE THOUSAND YEARS.**—In the sarcophagi of the mummies recently discovered in the royal mosques of Deir-el-Bahari in Egypt, a number of flowers were found, which were as fresh and natural as if they had only been a few months old although they have been entombed for more than three thousand years. Dr. Schweinfurth has studied these flowers and has recognized the larger number thereof. There appears to be one among them, which belongs to an extinct species, while others are now only met with in Abyssinia. The fruits deposited with the mummies have also been wonderfully preserved. For instance, upon some dates found with the mummy of queen Isimkheb, the last royal person which was there interred, the impression of the fingers which had handled them, could be easily recognized.—*Exchange*.

## Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor not later than the 25th of each month.

### SITUATIONS WANTED.

**AS PORTER OR ASSISTANT.**—By a person who has had thirty years' varied experience as Manufacturer or Dispenser. Address J. M., Office PHARMACEUTICAL JOURNAL, Toronto.

**APPRENTICE.**—H. N. Coursier, Office PHARM. JOURNAL, Toronto; age 21; good address; is desirous of learning the Drug business; references if required.

**IMPROVER.**—Walter A. Douglas, Warkworth, two years' experience; desires an engagement for one year.

**ASSISTANT.**—Joseph Pratt, 113 Berkeley St., Toronto, age 28; has had eight years' experience in England, in wholesale and retail; would like a situation immediately, in either line.

**ASSISTANT IN MANUFACTURING DEPT.**—E. N. Farrar, 66 Denison Avenue, Toronto; age 19; has had some experience in above line.

**ASSISTANT.**—J. C. Watson, Cardinal, Grenville Co., age 39; is open for an engagement.

**DRUG TRAVELLER.**—John F. Aitkin, graduate O.C.P.; good Canadian and American references. Address care of W. H. Schieffelin & Co., New York, U. S.

**PORTER.**—F. J. C. Pinning, 259 Burrow's Avenue, Toronto.

**PORTER.**—A. Cooper, corner George and Britian streets, Toronto.

**ASSISTANT.**—G. A. Matthews, 146 Centre Street, has had considerable experience in England, where he was a registered Chemist.

**ASSISTANT.**—W. Walter, Goderich; 4 years' experience; graduate O.C.P.

### BUSINESSES FOR SALE.

A retail business in Toronto; good stand, and well-assorted stock, price about \$2,000. Apply to Elliot & Co., Toronto.

### BUSINESS NOTES.

D. S. Sager has purchased the business of E. A. Pilkey & Co., Brantford.

The business of S. Townsend & Co., of Winnipeg, has been sold by the sheriff to Messrs. T. H. Bleasdel & Co., of Toronto. Personal extravagance is said to be the cause of the failure.

H. B. Jack, of Winnipeg, who some time ago purchased a stock to commence business in that city, sold the goods in lots, shortly after their arrival and left for Uncle Sam's dominions, leaving numerous creditors.

A. M. Rolls, of Chatham, is reported to have given a chattel mortgage.

Messrs. Gibbard Bros., Galt, have sold out their business to Yorke & McKibbin, who have since dissolved; Mr. Yorke retiring.

Much regret is expressed at the reported business difficulties of B. A. Mitchell and Mitchell & Platt, of London, who are said to be involved on account of the failure of a private banking firm. It is hoped that they will be able to make satisfactory arrangements to carry on their long-established business.

The stock of the late C. Mitchell, St. Thomas, has been assigned in trust for the benefit of the creditors.

### ARTICLES FOR SALE.

Second-hand copy of original edition of Pereira's *Materia Medica*—2 vols., price \$2.00.

Wilson's *Inorganic Chemistry*, second-hand, half-price. Address X., 53 Front St. East, Toronto.

### BUSINESSES WANTED.

Anyone having a good retail business to dispose of, value about \$2,000, may send particulars to F. P. C., 53 Front Street East, Toronto.

W. J. Hart, 730 Old Kent Road, London, England, wants to purchase a business.

## MARKET REPORT.

February is generally a dull month in the drug trade, and although business has been rather better than the average, storms and snow blockades have interfered seriously with the movement of goods. A very noticeable feature, not only connected with drugs, but all classes of merchandise, has been the very low prices at which staples have been sold, for more than a year past. Occasionally an article is boomed for a week or two, only to sink back to a lower point than ever.

*Opium* furnishes no remark whatever.

*Quinine* has fluctuated within narrow limits during the month, strong efforts being made in New York to raise the price, on account of an anticipated demand from the flooded districts of the west. European prices are not, however, favorable to such a movement. The stock of cinchona bark now in London amounts to about 80,000 packages. The American Senate and House of Representatives seem to have finally decided that quinine shall be free, whereas cinchona bark shall pay duty. This appears to be an unprecedented example of inconsistent and sentimental legislation.

*Miscellaneous Drugs.*—Anticipated tariff changes in the United States have made things very flat, and there are few changes to report on articles derived from this market. Borax has been in good demand at unchanged rates. Camphor sells freely, and higher prices are anticipated; Cuttle-fish bone is a little higher. Quicksilver, and mercurials are firmer, the demand being large. Amongst heavy chemicals the only exception to the general dullness is in chloride of lime, which has advanced over 25 per cent. Chloroform will of course sympathize. Beeswax and white wax are very scarce and dear. A new article called cerasin has appeared in the market here, and is said in many cases to answer the purposes of the product of the bee. It is selling at from 32 to 35 cents per lb. and has a bright, handsome appearance.

*Paints and Oils.*—The principal grinders are listing white lead at the same prices and discounts as last year. Linseed oil, especially English brands, is very easy in price; in fact, as low as ever known, owing to the enormous quantity of seed that has been shipped from India to England. Spirits turpentine, and turpentine varnishes continue scarce, and all changes in price are in the direction of an advance.

DRUGS, MEDICINES, &c.		\$ c.	\$ c.
Acid, Acetic, fort .....	per lb	0 12	@ 0 14
Benzoic, pure .....		0 13	0 30
Carbolic, cryst., med .....		1 25	1 50
com .....		0	0 50
Citric .....		0 80	1 00
Gallic .....		1 60	1 80
Muriatic .....		0 03½	0 06
Nitric .....		0 10½	0 15
Oxalic .....		0 18	0 19
Salicylic .....		2 25	2 40
Sulphuric .....		0 02½	0 05
Tannic .....		1 25	1 40
Tartaric, pulv .....		0 65	0 75
Ammon., carb. ....		0 21	0 24
Bromide .....		0 75	0 90
Iodide .....		4 00	5 00
Liquor, 880 .....		0 22	0 22
Muriate .....		0 14	0 15
Æther, Nitrous .....		0 27	0 45
Sulphuric .....		0 50	0 60
Antim. Nig., pulv .....		0 15	0 17
Tart .....		0 55	0 60
Alcohol, 95 per ct., bbl ..	Cash	2 75	3 00
Arrowroot, Jamaica .....		0 14	0 22
Bermuda .....		0 45	0 65
Alum .....		0 02½	0 03½
Balsam, Canada .....		0 45	0 50
Copaiba .....		0 90	1 10
Tolu .....		1 00	1 10
Bark, Bayberry, pulv .....		0 18	0 20
Canela, .....		0 12	0 14
pulv .....		0 20	0 22
Peruvian, yel. pulv .....		0 25	0 50
red .....		1 60	2 40
Prickly Ash .....		0 30	0 40
Slippery Elm, grd. bulk ..		0 18	0 25
flour, packets ..		0 28	0 32
Sassafras .....		0 12	0 16
Wild Cherry .....		0 10	0 12
Berries, Cubebs, ground .....		0 95	1 40
Juniper .....		0 07	0 10
Beans, Tonquin .....		1 40	2 75
Vanilla .....		10 00	12 00
Bismuth, Tris it .....		2 50	2 60
Carb. ....		2 60	2 70
liquor .....		0 35	0 55
Borax, refined .....		0 17	0 20
Camphor, American .....		0 35	0 37
English .....		0 48	0 50
Cantharides .....		1 50	1 60
Powdered .....		1 61	1 75
Chiretta .....		0 30	0 40
Chloroform. Pure .....		1 15	1 75
" D. & F .....		1 90	2 00
" German .....		0 60	0 70
Chloral hydrate .....		1 35	1 60
Cinchonine, Muriate .....		0 40	0 48
" Sulphate .....		0 34	0 42
Cinchonidia, Su' phate .....		1 00	1 20
Cochineal, S. G. ....		0 45	0 50
Black .....		0 45	0 50
Collodion .....		0 75	0 90
Cuttle-Fish Bone .....		0 35	0 40
Ergot .....		0 60	0 80
Extract Belladonna .....		3 10	3 00
Colocynth, Co. ....		1 25	1 75
Gentian .....		0 50	0 60
Hemlock, Ang .....		1 00	1 05
Henbane, " .....		3 00	3 50
Jalap .....		2 50	3 00
Mandrake .....		1 75	2 00
Nux Vom. ....oz		0 20	0 30
Opium .....		0 90	0 00
Rhubarb .....		4 00	5 00
Sarsap. Hon. Co. ....		1 00	1 20
Jam. Co. ....		4 00	4 50
Taraxacum, Ang .....		0 65	0 80
Flowers, Arnica .....		0 20	0 25
Chamomile .....		0 40	0 50
Fuller's Earth .....		0 03	0 04
Gum, Aloes, Barb .....		0 30	0 70
" Cape .....		0 20	0 25
powdered ..		0 23	0 25
" Socot. ....		0 54	0 75
pulv .....		0 62	0 80
Arabic. Select .....		0 40	0 45
powdered ..		0 45	0 55
sorts .....		0 18	0 20

DRUGS, MEDICINES, &c.—Contd.		\$ c.	\$ c.
Gum Arabic Sorts, powdered ..		0 20	0 30
Assafetida .....		0 20	0 25
Benzoin .....		0 50	0 80
Catechu .....		0 12	0 15
powdered .....		0 20	0 25
Gamboge .....		1 00	1 25
Guaiacum .....		0 65	1 00
Myrrh .....		0 45	0 85
Sang Dracon .....		0 65	0 45
Scammony, powdered .....		4 90	5 00
" Virg. ....		12 50	14 00
Shellac, Orange .....		0 35	0 40
Shellac, liver .....		0 33	0 38
Storax .....		0 65	0 50
Tragacanth, flake .....		0 65	1 35
" common .....		0 25	0 65
Galls .....		0 20	0 25
Gelatine, Cox's 6d. ....		1 20	1 25
" French .....		0 50	0 80
Glycerine, common crude .....		0 25	0 28
" 30° .....		0 35	0 38
Prices .....		0 70	0 00
Honey, Canada, best .....		0 22	0 25
Iron, Carb. Precip. ....		0 16	0 20
Citrate Ammon. ....		0 95	1 00
" & Quinine, oz. ....		0 45	1 10
" & Strychine .....		0 18	0 20
Pe-chloride solution .....		0 16	0 20
Sulphate, pure .....		0 06	0 10
Iodine, comm. cr. al. ....		2 25	2 50
Resublimed .....		2 75	3 00
Jalapin .....	oz	0 75	1 50
Kreosote .....	lbs	0 75	3 00
Leaves, Buchu .....		0 27	0 30
Relladonna .....		0 30	0 33
Foxglove .....		0 27	0 38
Henbane .....		0 25	0 25
Horehound .....		0 15	0 25
Lobelia .....		0 20	0 25
pulv. ....		0 40	0 45
Senna, Alex .....		0 23	0 25
" E. I. ....		0 10	0 14
" Tinnevely .....		0 13	0 25
Uva Ursi .....		0 15	0 17
Lime, Chloride .....		0 02½	0 05
Lime, Hypophos hite .....		1 90	2 25
Sulphite .....		0 10	0 11
Lead, Acetate .....		0 13	0 17
" Brown .....		0 09	0 10
Leptandrin .....	oz.	0 60	0 75
Lye, Concentrated .....	doz.	0 95	1 25
Liquorice, Solazzi .....	lb.	0 50	0 55
Martucci .....		0 35	0 37
Other brands .....		0 14	0 35
Magnesia, Carb. ....	1 oz.	0 20	0 25
" 4 oz. ....		0 18	0 22
Calcined .....	lb.	0 60	0 70
Citrate .....	gran.	0 40	0 75
Mercury .....	lb.	0 60	0 65
Ammoniated .....		1 25	1 30
Bichlor .....		0 80	0 90
Biniodide .....		3 60	4 00
Chloride .....		0 90	1 10
C. Chalk .....		0 40	0 70
Nit. Oxyd .....		1 10	1 30
Morphia Acet .....	oz	2 75	2 95
Mur. ....		2 75	2 90
Sulph. ....		2 85	3 00
Musk, pure grain .....	oz	32 00	.....
Canton .....		0 60	0 70
Moss, Irish .....		0 10	0 15
Oil, Almonds, sweet .....	lb.	0 60	0 65
" bitter .....		12 00	13 00
Aniseed .....		3 00	4 00
Bergamot, super .....		3 60	4 00
Caraway .....		3 20	3 50
Cassia .....		1 50	2 00
Castor, E. I. ....		0 10	0 12
Cedar .....		0 50	0 70
Citronella .....		1 25	1 50
Cloves, Ang .....		2 50	3 00
Cod Liver, Nor., Imp. Gal		3 50	4 20
" N. F. ....		2 25	2 50
Croton .....	lb	1 85	2 00
Hemlock .....		0 45	0 90
Juniper Wood .....		0 65	0 00
Berries .....		0 00	2 00
Lavand, Ang .....	oz.	4 50	5 55

DRUGS, MEDICINES, &c.—Cont'd		\$ c.	\$ c.
Oil, Lavand, Exotic.....lb.		1 40	3 50
Lemon.....		3 20	4 00
Orange.....		3 00	3 20
Neroli, super.....oz.		3 50	5 50
Origanum.....lb.		0 65	0 85
Peppermint Ang.....		13 00	15 00
Amer.....		3 75	4 75
Rose, Virgin.....oz		13 00	14 00
" good.....		7 00	8 00
Santal Ang.....lb.		9 00	9 75
Sassafras.....		1 00	1 20
Verbena.....		1 75	2 00
Wintergreen.....		4 00	4 50
Wormwood, pure.....		9 50	0 00
Ointment, blue.....		0 50	0 60
Opium, Turkey.....		3 90	4 25
pulp.....		7 70	9 00
Orange Peel, opt.....lb.		0 35	0 40
" good.....		0 16	0 25
Pill, Blue, Mass.....		0 55	0 75
Potas., Bi-chrom.....		3 14	0 16
Bi-tart.....		0 35	0 40
Bromide.....		0 48	0 55
Cyanide.....		0 52	0 55
Carbonate.....		0 13	0 15
Chlorate.....		0 22	0 25
Iodide.....		2 00	2 25
Nitrate.....		8 75	11 00
Sulphuret.....		0 25	0 35
Pepsin, Boudault's.....oz		1 20	1 20
Morson's.....oz.		0 90	1 00
Phosphorus.....		0 85	1 05
Podophyllin.....		0 45	0 50
Quinine, Howard's.....		2 30	2 75
German.....		1 90	2 05
Root, Colombo.....lb.		0 30	0 35
Curcuma, grd.....		0 11	0 15
Elecampane.....		0 16	0 17
Gentian.....		0 17	0 20
" pulp.....		0 21	0 20
Hellebore, pulp.....		0 15	0 18
Ipecac.....		1 75	0 10
Jalap, Vera Cruz.....		0 38	0 45
Liquorice, select.....		0 13	0 15
" powdered.....		0 13	0 15
Mandrake.....		0 12	0 20
Orris.....		0 18	0 25
Rhubarb, Trimmed.....		2 25	2 40
" E. I.....		0 85	0 95
" pulp.....		1 00	1 20
Sarsap., Hond.....		0 50	0 65
" Jam.....		0 60	0 00
Squills.....		0 16	0 20
Senega.....		0 95	1 00
Spigelia.....		0 55	0 60
Sal., Epsom.....		0 02	0 02½
Rochelle.....		0 35	0 38
Soda.....		1 25	1 50
Seed, Anise.....		0 12	0 15
Canary.....		6 50	7 00
Cardamon.....		2 40	2 75
Fenugreek, g'd.....		0 08	0 09
Flax, Ont. Cash 100 lbs		3 25	0 00
" Imported.....		3 00	3 00
Hemp.....		0 06	0 06½
Mustard, white.....		0 10	0 15
Saffron, American.....		0 60	0 75
Spanish.....		18 00	0 00
Santonine.....		4 50	5 75
Sago.....		0 08	0 09
Silver, Nitrate.....Cash		13 20	14 00
Soap, Castile, mottled.....		0 08½	0 11½
Soda, Ash.....		0 02	0 05
Bicarb. Newcastle. Keg		3 00	3 60
" Howard's.....lb		0 16	0 16
Caustic.....		2 50	5 00
Spirits Ammon., arom.....		0 40	0 45
Strychnine, Crystals.....oz		1 75	2 00
Sulphur. Precip.....lb.		0 15	0 16
Sublimed.....		0 03½	0 03½
Roll.....		0 02½	0 03½
Verdigris.....		0 50	0 55
Wax, White, pure.....		0 65	0 75
Zinc. Chloride.....oz		0 10	0 15
Sulphate, pure.....lb.		0 09	0 12
" common.....		0 06	0 10

## DYE STUFFS.

Annatto.....	0 35 @ 0 60
Aniline, Magenta, cryst.....	2 15 2 50

## DYE STUFFS—Continued.

Argols, ground.....	0 15 0 33
Blue Vitriol, pure.....	0 06½ 0 08
Camwood.....	0 05½ 0 08
Copperas, Green.....	0 01½ 0 02
Cudbear.....	0 15 0 30
Fustic, Cuban.....	0 02½ 0 03
Indigo.....	0 75 1 00
Extract.....	0 25 0 36
Japonica.....	0 08 0 10
Lacdy, powdered.....	0 33 0 38
Logwood, Camp.....	0 02½ 0 03
Extract.....	0 9 0 12
" 1 lb. bxs.....	0 15½ —
" ¼ lb. ".....	0 14½ —
Madder, best Dutch.....	0 12½ 0 14
Quercitron.....	0 03 0 05
Sumac.....	0 06 0 07
Tin, Muriate.....	0 10½ 0 12½
Redwood.....	0 03½ 0 04

## SPICES.

Allspice.....	0 20 @ 0 23
Cassia.....	0 20 0 25
Cloves.....	0 40 0 50
Cayenne.....	0 33 0 37
Ginger, E. I.....	0 12 0 14
Jam.....	0 27 0 30
Mace.....	0 85 1 00
Mustard, com.....	0 20 0 25
Nutmegs.....	0 95 1 00
Pepper, Black.....	0 18 0 20
White.....	0 30 0 33

## PAINTS, DRY.

Black, Lamp, com.....	0 08 @ 0 10
" refined.....	0 18 0 25
Blue, Celestial.....	0 09 0 12
Prussian.....	0 65 0 75
Brown, Vandyke.....	0 05 0 06
Chalk, White.....	0 01 0 01½
Green, Brunswick.....	0 07 0 10
Chrome.....	0 16 0 25
Paris.....	0 22 0 24
Magnesia.....	0 15 0 20
Litharge.....	0 07 0 08
Red Lead.....	0 05½ 0 07
Venetian.....	0 02½ 0 03
Sienna, B. & G.....	0 07 0 08
Umber.....	0 07 0 10
Vermillion, English.....	0 90 1 00
American.....	0 20 0 22
Whiting.....100 bs	0 85 1 00
White Lead, dry, gen.....lb.	0 06½ 7 00
" No. 1.....	0 05½ 6 00
Yellow Chrome.....	0 09 0 15
" Ochre.....	0 02 0 03
Zinc White, Star.....	0 06½ 0 11

## COLORS, IN OIL.

Blue Paint.....	0 12 @ 0 15
Fire Proof Paint.....	0 06 0 08
Green, Paris.....	0 25 0 30
Red, Venetian.....	0 07 0 10
Patent Dryers, 1 lb tins.....	0 10 0 12
Putty.....	0 03 0 03½
Yellow Ochre.....	0 08 0 12
White Lead, gen. 25 lb. tins.....	1 80 2 00
" No. 1.....	1 60 1 75
" No. 2 less 7½pc.....	1 40 1 50
" No. 3.....	1 20 1 25
White Zinc, Snow.....	2 25 2 35

## NAVAL STORES.

Black Pitch.....	3 50 @ 4 00
Rosin, Strained.....lb	3 60 4 00
Clear, pale.....	5 50 6 50
Spirits Turpentine Imp. Gall.....	0 90 1 00
Tar Wood.....	4 80 5 00

## OILS.

Cod Imp. Gall.....	0 75 @ 0 80
Lard, extra.....	1 10 1 20
No. 1.....	1 05 1 10
Linseed, Raw per gals.....	0 68 0 75
Boiled.....	0 72 0 80
Veats-foot.....	1 30 1 40
Olive, Common, Imp. Gall.....	1 05 1 15
Salad.....	2 10 2 20
" Pints, cases.....	4 00 4 20
" Quarts.....	3 25 3 50
Seal Oil, Pale, Imp. Gall.....	0 90 0 95
Union Salad.....	1 20 1 30
Sperm, genuine.....	2 40 2 50

# CANADIAN PHARMACEUTICAL JOURNAL

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WHOLE No. CLXXIV.

## PREPARATION OF SYRUPUS FERRI PHOSPHATIS BY A NEW METHOD.\*

BY DANIEL GORRIE.

Of all the pharmacopœial syrups none are so unsatisfactory as those of iron, and the literature which has been written upon them is able and voluminous; it is with considerable diffidence, therefore, that I submit this paper. In syrupus ferri phosphatis there are two sources of dissatisfaction, (1st) in its preparation and (2nd) in its tendency to spoil by keeping. The official method of preparation favors oxidation, while the ferrous phosphate cannot be entirely washed free from impurities which tend to favor subsequent coloration of the syrup. The method which I now bring before you is intended to overcome these objections, and has its main feature *the constant retention of the iron in solution*, thus saving the trouble of precipitating, washing, draining, drying and redissolving a ferrous compound which is very prone to oxidation. My formula is based upon the quantities given in the official formula, and is as follows:

Take of—

Granulated sulphate of iron.....	224 grs.
Syrupy phosphoric acid† (sp. gr. 1.500) 9 drachms, 56 grs. by weight.	
Pure carbonate of baryta.....	159 grs.
Distilled water.....	6 oz. or q.s.
Refined Sugar.....	8 oz.

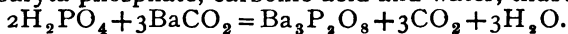
Mix the phosphoric acid with three ounces of water, and in the mixture dissolve the sulphate of iron with the aid of heat; add the baryta carbonate, and, when effervescence has ceased, continue

\*Pharm. Jour. & Trans.

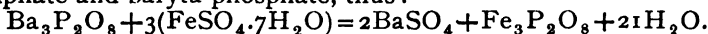
†Acid of this density contains, omitting a fraction, 50 per cent. of phosphoric anhydride, and the calculation is based upon this percentage. The additional quantity of acid, 76 grs., required to unite with the Fe, to form  $\text{Fe}_2\text{P}_2\text{O}_8$ , is also included.

the heat for a few minutes, to allow the precipitate to aggregate, then allow to cool. Filter when cold and wash the precipitate with three ounces of cold distilled water; in the filtrate dissolve the sugar without heat and make up to 12 oz. if necessary.

I may be allowed to give the rationale of the process:—In the first instance, the baryta carbonate will react with phosphoric acid to form baryta phosphate, carbonic acid and water, thus:



Double decomposition will then take place between the iron sulphate and baryta phosphate, thus:



Although baryta phosphate is insoluble in water, it is easily held in solution by the excess of acid present. The sulphate, you are aware, is almost insoluble, 1 part only being soluble in 400,000 of water, and it is concluded that it is not more soluble in cold phosphoric acid, but the solubility is rather more at the boiling point. It will be obvious, therefore, that boiling should be prevented, and that the solution be quite cold before filtration; the total separation of the baryta sulphate is thereby secured. To prove this, I have several times made an estimation of the precipitate by heating till it ceased to lose weight and weighing; in all cases, the theoretical quantity 188.05 grs. was found. The working loss scarcely interfered with the estimation. In every case, I ascertain by the ordinary tests whether the solution contains either undecomposed ferrous sulphate or baryta phosphate previous to the addition of the sugar. The finished product is beautifully transparent and colorless, and infinitely less liable to oxidation than syrup prepared by the official method.

Since writing the foregoing, Mr. McEwan has drawn my attention to a discussion on this subject at the Pharmaceutical Conference, held in Glasgow. In this discussion, Mr. Boreland suggested a method, based on the same principle, which has guided me in drawing up a formula, namely, the precipitation of the sulphuric instead of the ferrous radicle. Mr. Boreland gets this result by dissolving lime phosphate in phosphoric acid, and adding a solution of sulphate of iron, double decomposition ensuing. This method is objectionable in so far that lime phosphate to be soluble requires to be freshly precipitated (thus entailing considerable time), and besides, the finished product is contaminated with lime sulphate. The objections against the lime phosphate can be obviated by adopting my method, and substituting precipitated chalk for baryta carbonate, 81 grains of the former being equal to 159 grains of the latter. If the precipitated chalk be used, it is necessary to allow the solution to stand for twenty-four hours to allow sulphate of lime to separate as far as possible. Again, when the sugar has been dissolved in the solution, more lime sulphate separates, due no doubt to its inferior solubility in a saturated saccharine solution, hence the necessity of a few days' rest for deposition.



I am conscious that objections may be urged against the baryta method lest baryta phosphate should be held in solution by the free acid present, but it is evident that, with pure materials and careful and intelligent manipulation, the process will commend itself as being simpler, speedier, and less objectionable than the official method, or than the very slow method of dissolving iron filings in syrupy phosphoric acid.

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## COTTON-SEED OIL: SOME OF ITS USES IN PHARMACY, AND ITS DETECTION WHEN MIXED WITH OLIVE OIL.\*

BY S. S. BRADFORD, PH.G.

Having had occasion, during the last six years, to manufacture lead plaster in considerable quantities, it occurred to me that cotton seed oil might be used instead of olive oil, at less expense and with as good results. The making of this plaster with cotton seed oil has been questioned, as according to some authorities the product is not of good consistence, and is apt to be soft, sticky, and dark-colored, but in my experience such is not the case. If the U.S.P. process is followed in making this plaster, substituting for the olive oil cotton-seed oil, and instead of one-half pint of boiling water one and one-half pint are added, the product obtained will be equally as good as that from olive oil. My results with this oil in making lead plaster led me to try it in making the different liniments of the pharmacopœia, with the following results :

*Linimentum Ammoniaë*.—This liniment, made with cotton-seed oil, is of much better consistency than when made with olive-oil. It is not so thick, will pour easily out of the bottle, and if the ammonia used is of proper strength, will make a perfect liniment.

*Linimentum Calci*.—Cotton-seed oil is not at all adapted to making this liniment. It does not readily saponify, separates quickly, and it is almost impossible to unite when separated.

*Linimentum Camphoræ*.—Cotton-seed oil is far superior too live oil in making this liniment, it being a much better solvent of camphor. It has not that disagreeable odor so commonly found in the liniment.

*Linimentum Chloroformi*.—Cotton-seed oil being very soluble in chloroform, the liniment made with it leaves nothing to be desired.

*Linimentum Plumbi Subacetatis*.—When liq. plumbi subacet. is mixed with cotton-seed oil and allowed to stand for some time, the oil assumes a reddish color similar to that of freshly made tincture

\*Amer. Jour. Pharm.

of myrrh. When the liquor is mixed with olive oil, if the oil be pure, no such change takes place. Noticing this change, it occurred to me that this would be a simple and easy way to detect cotton-seed oil when mixed with olive oil. This change usually takes place after standing from twelve to twenty-four hours. It is easily detected in mixtures containing five per cent. or even less of the oil, and I am convinced, after making numerous experiments with different oils, that it is peculiar to cotton-seed oil.

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## NEW METHODS FOR PREPARING OXYGEN AND HYDROGEN ON A LARGE SCALE.

The following new processes have been patented by Helouis :

1. *Hydrogen*.—Wood is distilled in retorts, in the usual manner ; the escaping gases being used for heating the retorts, the tar for carbonizing the hydrogen subsequently produced, and the wood-vinegar for the manufacture of acetate of sodium. There remains, finally, a charcoal, which is exposed, while ignited, to a current of steam, whereby a mixture of hydrogen, carbonic oxide, and carbonic acid gas is produced. This mixture is conducted over red-hot sulphate of calcium, whereby sulphate of calcium is formed, and the carbonic oxide is also converted to carbonic acid so that finally, the gaseous mixture contains only the last-named gas together with hydrogen. This mixture is then conducted through a solution of soda, by which the carbonic acid is absorbed and pure hydrogen escapes. The solution of carbonate of sodium is utilized in making the acetate of sodium.

2. *Oxygen*.—Six hundred parts of gypsum (sulphate of calcium) and three hundred and forty parts of silicic acid, in form of river sand, are mixed, heated to redness in retorts, and superheated steam passed over the mixture. The escaping gases, consisting of oxygen and sulphurous acid, are conducted through a solution of soda, whereby sulphite of sodium is formed, while oxygen passes on and, after being washed in milk of lime, is collected in a gas-meter.

A less pure oxygen, or rather a highly oxygenated air—containing seventy-five per cent of oxygen—may be obtained for technical purposes, by causing air to be absorbed, under a pressure of ten atmospheres, by a mixture of eighty parts of water and twenty parts of glycerine. This mixture absorbs more oxygen than nitrogen, and gives off this oxygenated air on removing the pressure. By repeating the operation a few times, the proportion of oxygen may be raised to seventy-five per cent.—*Neueste Erfind. und Erfahr. in New Remedies.*

## DEODORIZED COD-LIVER OIL WITH IRON\*

Take of

Cod-liver oil.....	1	pint.	
Sulphate of iron, dried.....	64	grains.	
Castile soap, powdered.....	128	"	
Charcoal, powdered .....	1	ounce.	
Coffee, ground.....	$\frac{1}{2}$	"	Or.
Chocolate, powdered.....	$\frac{1}{4}$	"	
Hot water.....	q.s.		

Dissolve the sulphate of iron and Castile soap, each separately in a sufficient quantity of hot water, mix the two solutions, and, after washing the resulting precipitate (oleate of iron) with water, triturate the oleate in a mortar with the cod-liver oil (previously heated in a water bath) gradually added; then the remaining ingredients, subject the whole to a water-bath for an hour, and filter, while hot, through paper or flannel.

The oleate of iron, which each tablespoonful of this preparation contains, is equivalent to nearly one grain of the sulphate of iron. To increase the quantity of iron in the above formula, twice the amount of the sulphate and soap may be used; the preparation would then contain oleate of iron equivalent to nearly eight grains of sulphate of iron to the fluid ounce, or one grain to a teaspoonful the latter modification being adapted to the administration of small doses of the oil.

The preparation has a dark-brown, almost transparent appearance, the oleate of iron combining readily with the warm oil. It contains only a faint odor of cod-liver oil, the charcoal assisting as a deodorizing agent, and the chocolate or coffee adding flavor to the same. It has the advantage of being acceptable to persons who would reject the oil in its unmodified form.

Fort Mojave, A. T., Oct. 6th, 1882.

W. A. HENRY.

## NOTES ON DISPENSING SYRUP OF ACACIA.†

In this season of coughs and colds and endless cough-mixtures, not a little trouble and bother is frequently occasioned by prescriptions calling for syrup of acacia. The pharmacopœia calls for freshly prepared syrup, which should include a freshly made mucilage of acacia. If this is strained and prepared according to directions it is a sticky and disagreeable job and will be generally voted a nuisance, especially if one is pressed for time.

\*New Remedies.

†Pharmaceutical Record.

A quicker way is to triturate the powdered gums with simple syrup in a mortar until dissolved. This generally makes a satisfactory syrup, but a neater and easier way is, when the prescription admits, to place the syrup in the prescription bottle itself, shake, to incorporate any adhering water and to coat the inside of the vial with syrup; add sufficient gum arabic in fine powder, shake till thoroughly mixed with the syrup and finally add a little water and shake again when a nice clean syrup of acacia should result. If the bottle be coated with syrup first and a nice quality of powdered gum is used there should be no trouble or difficulty.

Powdered gum arabic..... grs. xl.

Simple syrup..... f. 3 vi.

Water ..... f. 3 ij.

will make a syrup of nearly the officinal strength.

A prescription frequently called for in this vicinity is the "mixture glycyrrhizæ composita" or "brown mixture." The pharmacopœia directs that extracts of glycyrrhiza, sugar and acacia be rubbed together in a mortar; a quicker and better way to accomplish the same result is, if a four ounce mixture is prescribed, to take as follows:

#### BROWN MIXTURE.

Simple syrup..... f. 3 vi.

Powdered acacia..... grs. xl.

Paregoric ..... f. 3 ss.

Wine of antimony..... f. 3 ii.

Spts. nitre.....

Fld. ext. licorice..... à f. 3 i.

Water, q. s. ad..... f. 3 iv.

Place the syrup, as directed above for syrup acacia, in a four ounce vial; add the powdered gum, shake and add a portion of the water, shake again and add the balance of the prescription. This manipulation gives a nice preparation in considerably less time and with less trouble than the directions given in the pharmacopœia.

The above may not be new to some of our readers, but will doubtless prove a helpful suggestion to others. W. K. Roy.

WAPPINGERS FALLS, N. Y., Jan. 18, 1883.

#### FRENCH PHARMACEUTICAL TERMS.\*

The following terms occur quite often enough in the daily business, but are seldom correctly understood:

*Alcoolat* is a distilled spirit.

\*Stearn's New Idea.

*Alcoolature* is an alcoholic tincture of a fresh plant (sometimes called *green tincture*.)

*Alcoole* is an alcoholic solution of a drug or chemical, which is entirely soluble in it. If the drug is only partly extracted we have a *teinture* (tincture).

*Essence* means always volatile (excepting in a few foreign tinctures, where the original appellation has been retained).

*Etherolat* (etherat) *etherolature* and *etherol* correspond to the alcoholic term.

Glycerine preparations are called *glycerole*, when liquid ; *glycerat* (*glycere*) when solid or soft.

*Hydrolat* is a distilled water.

*Hydrole*, an aqueous tincture (so to speak).

*Mellite* is a honey.

*Oxymellite* is a honey with vinegar.

*Onguens* is an ointment that does contain resin.

*Pommade* is an ointment that does not contain resin.

*Saccharole* is any preparation containing sugar in large excess (except syrup). Honey is a *liquid* saccharole, and electuary a *soft* one.

*Saccharure* (dry saccharole) is a medicated sugar (the *abstracta* of the U. S. Pharmacopœia are saccharures).

*Sucrate* is a saccharate.

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## HOW TURPENTINE IS MADE.

"Its chief productions are tar, pitch and turpentine." So ran the tale about North Carolina in the geography studied by children in New England long years ago.

In the sections accommodated by water transportation, most of the trees have been "boxed" to the limit of profit and abandoned. To "box" a tree is to cut away the bark and wood to a depth of six inches, from a strip extending around the trunk a distance of twelve or fourteen inches, sloping it so as to form a receptacle for the crude turpentine which exudes from the tree. Above the box the bark is cleaned away, leaving it in the form of a broad letter V with its bottom lost out, thus securing an incline down which the turpentine travels to the box. After "boxing" is completed, the "chipping" begins. Both sides of the angle are "chipped," and every tree is subjected to this process once each week from the time it is boxed until it is abandoned, ranging from two to four years. This work is necessary in order to secure a free flow of turpentine, as it soon gums up its own pathway, closing the pores so completely not a drop escapes.

In appearance crude turpentine resembles white wax, which,

after melting, has only partially solidified. It looks tempting enough to eat, but one taste is as effective as a sign "hands off" nailed to every tree would be. The product of each tree is gathered four or five times during the year, the yield of an average tree amounting to about twenty-four gallons of the crude "dip" and "scrape." Only a portion of the turpentine finds its way into the box, the rest adhering to the surface of the tree; that in the box is known as the "dip," that removed from the tree as the "scrape." Wagons go about through each crop, gathering into barrels the crude turpentine, which is delivered at the distillery.

The "crops" are distinctly separated by blazed trees, and a man placed in charge of each crop. The first year's product of the tree makes the finest rosin, nearly always coming up to the standard required for the "water white" brand; with each yield it deteriorates until it yields only the dark, muddy-looking stuff which finds its way into much of the cheap soap put upon the market. An ordinary copper still, similar to those used in grain distilleries, is used to separate the spirits from the rosin.

During the boiling process a small stream of hot water is kept running into the rosin to prevent its burning; in the form of vapor this water mingles with the spirits, and they pass together through the still worm, where they are condensed, escaping from the pipe at one end of the still. Here the turpentine rises to the surface, and passes on to the barrel waiting to be filled. A peculiarity of boiling rosin is, that when it threatens to "boil over," the only remedy is to increase the heat, causing it to boil more rapidly. When the water escaping from the still-worm ceases to bring turpentine with it, the still cap is removed, the fire drawn out, and the escape door at the side of the still opened. The rosin rushes out, a steaming, bubbling mass, reddish brown in color, and odorous. It first passes through a coarse wire sieve, then through one of finer quality, and finally a strong Canton flannel stretcher catches the remaining impurities. A few minutes suffice to let the intense heat escape; then it is dipped into barrels and is ready for market. Very strong barrels are required, as the weight of a barrel of rosin is two hundred and eighty pounds.

The present price of turpentine, at the distilleries, is thirty-four cents per gallon; the price of rosin varies according to quality. The best is known to the trader as "water-white," the next best as "window-glass," then comes "extra pale," "pale," "low pale," and so on down to "common."

A distillery which makes the higher grades mainly can nearly pay expenses from the rosin alone, leaving the turpentine to swell the figures on the "profit" side of the book; and when the owner erects a mill, as Mr. Carney has done, where all the "boxed out" trees are converted into lumber, a pine forest is little less than a bonanza. If the experiments being made in Georgia prove suc-

cessful, even the sawdust at the mill may be utilized for something more than fuel for the engines. By a process of sweating, fourteen gallons of spirits of turpentine, three or four barrels rosin, and a considerable quantity of tar, have been obtained from one ton of pine sawdust. It remains to be demonstrated whether or not the yield will be sufficient to pay for working it, or whether nature's process is not the best and cheapest.—*The Druggist*.

## EXAMINATION OF LARD.\*

**Color.**—Pure lard ought to be pure white at ordinary temperatures, and perfectly transparent when melted.

**Melting point and specific gravity.**—According to Dr. Hager, the melting point of the mixture of fatty acids constituting lard is 105° F. (according to the B. P., "about 100° F."), and its specific gravity at 59° F. 0.931 to 0.932 when fresh, and 0.940 to 0.942 when old.

**Smell.**—Pure lard ought to smell perfectly sweet without the slightest tendency to rancidity.

**Salt.**—This impurity is often added to increase the capacity of the grease for water, and to make it keep better when imperfectly rendered. It may be easily detected by treating a portion of the suspected lard with distilled water, separating the latter, and testing with nitrate of silver solution for chlorides in the usual manner. (*Chevallier*.)

**Alum.**—This is also added in order to allow a larger quantity of water to be incorporated with the lard. The lard is to be well washed as before, and the water tested for sulphuric acid and alumina. (*Spon*).

**Caustic Lime.**—It is a common practice with the Canadian lard exporters to mix with it from 2 to 5 per cent. of milk of lime. A lime soap is thus formed, and the lard will take up as much as 25 per cent. of water. Triturated with a little mercurous nitrate such lard turns more or less black. It may also be detected by washing and treatment with ammonia oxalate. (*Phar. Jour.*, iii. i., 1,043).†

**The Alkaline Carbonates.**—These are added with a similar intention. Wash and add to the aqueous residue dilute nitric acid, which should cause no effervescence. It should give no precipitate with platinum chloride, and should be neutral to test paper.

**Plaster of Paris.**—This adulteration may be detected by allow-

\* From the Chemists' Journal.

† This adulteration was first noticed in this JOURNAL in 1871, but it was not said that it was a common practice with Canadian exporters, but that we had met with lard so adulterated, and believed that some renderers were in the habit of using lime as indicated.

ing the washing water to deposit it by simply melting the lard at a very low temperature. (*Chevallier*).

*Starch*.—American lard, in addition to all the impurities mentioned above, sometimes contains starch, which has been added to increase its hardness. Wash at ordinary temperature and examine the deposits left by the washings under the microscope, or test the boiled washings with iodine water.

*Carrageen Moss*.—According to Chevallier, M. Astaix, who selected a number of different samples from several cargoes of lard exported from New York, found 25 per cent. of a jelly which was neither nitrogenous, amylaceous, nor pectic, but which offered a close resemblance to vegetable mucilage, particularly to the gelatinous matter furnished by carrageen or Iceland moss. This jelly was insipid, insoluble in ether and alcohol, swelled in cold water, and was not precipitated by tannin nor colored blue by iodine water.

*Water*.—Melt at a gentle heat for an hour or more, in a long test tube. If any water is present, it will collect at the bottom. American lard, from being made from the entire pig, is extremely soft, and is often adulterated with muttons and other fats to increase its hardness, or rape oil when too much of these has been added. The addition of other fats can only be detected by the increased specific gravity, and altered color, taste and smell.

Metallic impurities from the use of lead or copper vessels are so rare as not to need lengthy mention.

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## SYNTHETICAL PRODUCTS.\*

We have received from Messrs. Schimmel & Co., of Leipsic, a small pamphlet in German, on "Vanillin, Cumarin, and Heliotropin." They are manufacturers of the last two of those interesting chemicals, and in this pamphlet give a few details which are worth reproduction.

Referring to the progress of chemistry in the synthesis of natural products, they point out, first, the immense importance of the discovery of the process for producing indigo, the annual consumption of which is about 15,000,000 of English pounds, averaging a value of £2,500,000 sterling. The problem of the synthesis of quinine, they consider, cannot remain long closed to the diligent investigation of modern chemists. The annual consumption of this article is estimated at 120,000 kilos, worth over £1,500,000 sterling.

Coming to products which have passed beyond the problematical stage, they consider that in vanillin Nature has been actually surpassed by Science. The prejudice of the public against the manufactured article is rapidly giving way, and in a few

\* Chemist & Druggist.



decades they prophesy that the present system of sending large sums of money out of the country for vanillin *plus* a large quantity of ballast, when pure vanillin can be bought cheaper, will be something to smile at. The product of a fairly good harvest of Bourbon and Mexican vanillin reaches about 44,000 kilos., of an average value of 50s. per kilo., or, say, £110,000 as the total. The maximum proportion of vanillin contained in vanilla is 2 per cent., and in the lower qualities it runs down to as low as  $\frac{1}{2}$  per cent. But, taking the whole as 2 per cent., it results that the vanilla crop represents only 880 kilos. of vanillin, which, at the present price of the artificial, would cost about £40,000, and would be much cheaper if manufactured to anything like that extent. That calculation shows that a saving of £70,000 sterling might be effected.

Cumarin has been brought to equal perfection as a synthetical product, and has met with less prejudice. One ounce of cumarin is equivalent to 4 lbs. of the best Tonquin beans. The crop of Tonquin beans does not exceed 100,000 kilos., which, at 10s. per kilo., makes the maximum value £50,000 sterling. This would be represented by £30,000 worth of cumarin at its present price. The chief market for Tonquin beans is New York. Cumarin, is said to be an excellent addition to iodoform (in the proportion of about 10 per cent.), to cover its disagreeable smell.

Heliotropin has taken its place in perfumery, and is almost exclusively used as the basis of the "Extrait de l'Heliotrope blanc," one of the leading articles of the perfumer. It makes a beautiful heliotrope pomade. A fine extract of heliotrope is made with 5 grammes of heliotropin, a few grammes of cumarin, 100 grammes of extract of jasmin, and 1 kilo. of fine spirit. Through the increased use of this product the price has been reduced from £150 per kilo., which it cost in 1878, to £50 per kilo., which is its present rate.

Allowing for some enthusiasm on the part of the authors of the pamphlet as manufacturers, it may be admitted that the advantages of these synthetical products are as yet hardly sufficiently appreciated, and it is for that reason that we make this abstract of their essay.

## POWDERS FOR CATARRHAL CONDITIONS.

Dr. Goodwillie, of New York, recommends powders to be used by insufflation in catarrhal affections, and gives the following recipes for those he has found most useful :

### No. 1.

R Benzoini .....	3	1
Morph. muriat.....	grs.	6
Bismuthi subnitrat.. .....	3	$\frac{1}{2}$
Potassii nitrat.....	3	$\frac{1}{2}$

Mix.

Valuable for its sedative action. To be used in hyperæmic conditions with pain. In the beginning of an attack of rhinitis, coat the mucous surface with it.

## No. 2.

R	Aluminis .....	3	1
	Acaciæ .....	3	4
	Bismuthi subnitrat.....	3	4
	Potassii nitrat.....	3	4

## Mix.

Useful where a strong astringent is indicated.

In case of hæmorrhage from the nose, remove all the clot and immediately blow in this powder abundantly until the bleeding ceases.

## No. 3.

R	Iodoform.....	3	1
	Camphoræ .....	3	1
	Bismuthi subnitrat .....	3	$\frac{1}{2}$
	Potassii nitrat .....	3	$\frac{1}{2}$

A good antiseptic.

To be used where the discharges are fœtid, or where ulceration is present, or an excessive amount of granulations.

The camphor masks the odor of the iodoform.

These powders, when impalpable and with the therapeutic integrity of the drugs preserved, can be more effectually applied to the nasal passages than spray, and their good effect is certainly more prolonged.

For the general practitioner they are vastly more convenient than sprays.—*St. Louis Druggist.*

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 NEGRO COFFEE.\*

The following extract from a letter from Dr. Nicholls, of Dominica, shows that the use of the seeds of *Cassia occidentalis* as a coffee substitute is well known amongst the negro inhabitants of that island :—

"*Cassia occidentalis* is, I find, an excellent coffee substitute; it is called in Dominica by the following names, 'l'herbe puante,' 'café marron,' and 'wild coffee.' I have often heard of the negroes using the seeds of a native plant as coffee, but it is only lately that I have inquired into the subject. I collected some seeds and directed my cook to roast and grind them, so that I might taste the 'coffee.' Other matters engaging my attention I forgot the circumstance until several days afterwards, when one evening my

\* From the "Report on the Royal Gardens at Kew," in *Pharm. Journ. & Trans.*

wife inquired how I liked my after-dinner cup of coffee. I turned to her inquiringly, when she laughingly said, 'that is your wild coffee.' I was indeed surprised, for the coffee was undistinguishable from that made of the best Arabian beans, and we in Dominica are celebrated for our good coffee. Afterwards some of the seeds roasted and ground were brought to me, and the aroma was equal to that of the coffee ordinarily used in the island.

"The plant itself is used by the native 'doctors' medicinally in the form of a decoction, and it has the reputation of being a good diaphoretic. The weed is very common, so if it turns out to be valuable it can be obtained in large quantities."

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PREPARATION OF BOUGIES.—Labler manipulates as follows: Whitegelatin 2 parts is dissolved in water 8 parts, and glycerin 1 part, and the solution heated in a water-bath, until a drop of it placed upon a glass or marble slab has the proper consistency after cooling; the necessary quantity of tannin (?), iodoform, etc., dissolved in, or triturated with a little water, is then added, the whole stirred and heated until the water has evaporated, when the mass is sucked up in glass tubes of the requisite diameter. The glass tube is closed with the finger, and then laid upon a cool slab. The glass tube having been previously cut with a file near the middle, and united again by pasting a piece of paper around the joint, the paper is soaked off, the two halves of the tube are sufficiently pulled apart, so as to withdraw a small portion of the bougie, and by means of the spritz a little water is dropped between the glass and the mass, when the latter may be easily withdrawn from one-half of the tube, and after a similar manipulation, also from the other half. In this manner bougies 0.5 meter long may be easily obtained, and afterwards cut to suit.—*Rundschau*, 1882, p. 676; from *Casopis česk. lék. in Amer. Jour. Pharm.*

The oiling of the interior of the glass tube, previous to filling it with the hot gelatin solution, as suggested by F. Friedrichs in 1880, appears to facilitate the subsequent withdrawing of the bougie by pushing it out of the tube by means of a suitable rod. (*Editor Am. Jour. Pharm.*)

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RUBBER LUBRICATOR FOR BELTS.—5 parts of India rubber are cut fine and melted together with 5 parts oil of turpentine in an iron, well-covered vessel; then add 4 parts of rosin, stir well, melt and add 4 parts of yellow wax, stirring constantly while melting. This mixture while warm is added, with constant stirring, to a melted mixture of 15 parts fish oil and 5 parts of tallow, and the whole is agitated until it has congealed. The mass is applied to old belts upon both sides in a warm place, and when the belts are in use, from time to time upon the inner side. By this treatment they become very durable.—From *Chem. Centralblatt*, 1882, p. 768., in *Am. Jour. Pharm.*

UNCHANGEABLE LINSEED MEAL.—In an article in the *Reper-toire de Pharmacie*, M. Lailler, Pharmacien-in-Chief of the Asiles de Quatre-Mares-St.-Yon, Rouen, says he has prepared a linseed meal free from oil, but of which the mucilaginous properties are not affected, by treating the linseed meal of commerce by sulphide of carbon, under certain conditions which he does not describe. He urges, on the strength of his own experiments and on the authority of Deschamps, that the oil in the linseed meal is not, as is generally supposed, an advantage. Deschamps says "the oil of the grain is so imprisoned by the mucilaginous matter when warm water if added to the linseed meal that no one has ever observed any trace of the oil; neither the linen nor the part poulticed is ever greased." But the oil very quickly becomes rancid, and in this state it does seriously affect the skin, and M. Lailler says there is no guarantee that the meal bought in the shops is freshly ground, as is required by the Codex. He reports that on testing comparatively the meals with and without oil, he finds the latter furnish a large proportion of mucilage, and that he gets an equal unctuous poultice with 75 parts of the dry as with 100 parts of the oily meal. Thus the dry meal gives lighter poultices, and they keep their heat longer and are not so liable to cause unpleasant results.—*Chemist and Druggist*.

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POTELINE.—M. Potel recently submitted to the French Society of Encouragement a new substance, named after himself, "Poteline," and which appears to be susceptible of numerous applications. It is said to be a mixture of gelatine, glycerine and tannin, and is, according to the inventor, absolutely impermeable to the air. When warmed it becomes liquid, or nearly so, and may readily be worked into different shapes. M. Potel is reported to have made corks of it which form an economical substitute for metallic capsules, securing a hermetic closing, and to have used it as a coating to preserve meat. At a temperature of 112° it becomes almost liquid, and when applied to meat will, it is claimed, kill the germs of putrefaction and prevent the entrance of new germs. According to the inventor, meat thus treated will retain all its freshness for a considerable length of time.—*Pharm. Record*.

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CEMENT FOR GLASS.—Dissolve finely cut caoutchouc, 1 part, in chloroform, 64 parts, add finely powdered mastic, 16 parts and macerate until dissolved. The cement is applied with a brush. A larger proportion of caoutchouc renders the cement elastic.—*Zeitschr. Æst. Apoth. Ver.*, p. 435, from *Polyt. Notizbl.*, in *Am. Jour. Pharm.*

## Editorial.

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### SHORTAGES IN THE WEIGHT OF PACKAGES OF QUININE.

Messrs. Lyman Bros. & Co., of this city, report having had considerable trouble lately on account of alleged shortages in the weight of German sulphate of quinine sent out in paper packages. Ten ounces were recently forwarded to a customer, who, on receiving it, found it to weigh only nine ounces, and consequently demanded credit for the quantity deficient. Such cases have been of frequent occurrence, and the firm, while treating their customers with the utmost leniency, cannot thus suffer loss, and announce their intention of shipping all quinine in bottles, for which a charge will be made, or otherwise letting the purchaser take all responsibility of shrinkage.

This loss of weight is, of course, to be accounted for by the drying of the quinine. This takes place more rapidly than is commonly believed. Thus the firm exposed a package of ten ounces, wrapped up, as usual, in paper, for forty-eight hours, in an office in which the temperature ranged from 55° to 70°. At the close of the first day and night, the package (which with the paper with which it was enclosed weighed eleven ounces gross) weighed ten and a half ounces, and in forty-eight hours, ten and a quarter ounces, or three-quarters of an ounce, equal to seven and a-half per cent. The experiment is still being continued, and no doubt the decrease in weight will go on, at ordinary temperatures, until the original ten ounces become about nine, and perhaps even less.

According to the British and United States Pharmacopœias, sulphate of quinine has the formula  $(C_{20}H_{24}N_2O_2)_2H_2SO_4 \cdot 7H_2O$ . That is, in 872 parts there are 136 of water of crystallization, or 14.45 per cent. By exposure to air, at ordinary temperatures, about ten per cent. will be lost by efflorescence, and about 4.6 per cent. will be retained. This amount of water will remain constant until the quinine is exposed to a temperature of 212°, when the salt becomes anhydrous. We can see then that taking the Pharmacopœia for our standard, and reasoning from theoreti-

cal grounds, that official sulphate of quinine contains 14.45 per cent. of water, but, practically, it is found difficult to confine the limit to this point, as some water is likely to adhere to the crystals as moisture, and indeed several high authorities say that there are really 8 molecules of constitutional water present. The recently published German Pharmacopœia allows a loss of 16.8 per cent. of water, by three hours drying, at  $212^{\circ}$ , and probably in this instance the standard is practically correct.

We have some of this German quinine at present under examination, and shall report on it in next number, but, from the reputation of the makers, expect it to turn out about as usual. At the time of writing 100 grains have been exposed to a heat of  $234^{\circ}$ , for two hours, and, on just being weighed show a loss of 16 per cent., which will be probably increased by further treatment.

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#### AMENDMENTS TO THE PHARMACY ACT OF GREAT BRITAIN.

We learn from our English exchanges that the long talked of amendments have been drafted, and as the Pharmaceutical Society has put the matter into shape at the request of the British Government there is every probability that a Bill, in some form or other, will be carried during the forthcoming Session of Parliament. The changes advocated are briefly summarized by the *Chemist & Druggist*, the most important being the following: (1.) To add a new schedule of poisons, including, sulphuric, hydrochloric, nitric, and carbolic acids, and butter of antimony, which may be sold by tradesmen generally, but must always be labelled "poisonous." (2.) Wholesale dealers to keep a record of all sales of poisons. (3.) Patent medicines containing poisonous substances to bear a poison label, and only to be sold by registered chemists. (4.) To require those keeping open shop to inform the Registrar as to the real owner of the business. (5.) That branch shops must be managed by registered men. (6.) Pharmaceutical Society to have all fines. (7.) Pharmaceutical Society to have power to define and modify subjects of examination. (8.) That no chemist shall take an apprentice until he has passed the preliminary examination. (9.) The "Minor" examination to confer

the title of "Pharmaceutical Chemist." (At present the "Major" examination must be passed before the title can be assumed.) (10.) To end the time in which registration may be effected on the ground of service prior to the passing of the Act of 1868.

There does not appear to be much ground for taking exception to any of these clauses, except perhaps that confining to registered chemists the sale of poisonous patent medicines. General dealers may oppose this, but we do not think any just reason can be urged against the change, as it is manifestly absurd to encumber the sale of ordinary poisons with numerous restrictions, while, by simply bringing out a poison as a patent medicine, it may be distributed without let or hindrance.

There are many features in these amendments which might be introduced into our Act in Canada, and as this measure was originally based on, and is almost identical with that of Great Britain, we would recommend the proposed changes to the consideration of the Committee on Legislation, and members of the College generally.

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### CYPHER PRESCRIPTIONS.

The case instanced by our correspondent, "Free Trade," in a communication on another page, is not, we trust, a common one. The practice of writing prescriptions in cypher is, at least, in Toronto, far from general, and most physicians would scorn to have anything to do with a transaction of such a questionable character. There can be but two reasons for writing in cypher; either that the prescriber, for fear of imitation, wishes to keep secret the composition of his remedy, or, more generally, that he wishes to force his patient to trade with a certain druggist, so that the profits may be shared. Neither reason can be urged as an adequate excuse. If physicians refuse to employ or countenance the use of secret or proprietary remedies, made by others, they cannot consistently desire their patients to do so. The other reason points so directly to the percentage system, in its worst phase, that discussion is needless.

We do not, however, think that "Fair Play" would have been justified in substituting any preparation of his own, no matter

what might have been his opinion as to its being "No. 1.," for that ordered by the doctor.

The following advice was given last month, by the editor of the *Druggists Circular*, to a correspondent who made a similar inquiry: "A method of retaliation, which is said to have been effective in some cases, is to calmly, but systematically, explain to every one bringing a prescription of the kind, that he is imposed upon by both the physician and druggist, and by that device made to pay two or three times what the medicines are fairly worth. Sometimes greedy physicians are in this manner shamed into abandoning the vicious procedure. Those who are not sensitive to shame are made to lose some of their practice, for no one likes to be imposed upon, and no patient keeps a good opinion of a physician who thus lowers himself for the sake of gain."

If "Fair Play" thinks that the prescriber's motive was an avaricious one he can try this plan when the opportunity next presents itself. The remedy is a harsh one, but severe diseases require strong medicines, and the probability is that the seat of the disorder would be touched, although a thorough cure might not be effected.

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### SPONGE AND THE SPONGE FISHERIES.

A lecture on the above subject was delivered by Mr. J. H. Pearce, at an evening meeting of the College, on March 27th. A large number of students and others were in attendance. The chair was occupied by Prof. Shuttleworth, who introduced the lecturer, and alluded to a former lecture on the same subject, delivered last session, in which Mr. Pearce described in the most thorough manner the structure and anatomy of the *Poriphera*. The present lecture might be taken as a continuation of the first, having especial reference to the commercial varieties of sponge and the mode of collection. The lecture, which will be published, either entire or in abstract, in our next number, was listened to with the greatest attention, and the specimens and microscopical illustrations proved very interesting. At the close a vote of thanks was proposed by Mr. H. Miller, seconded by Mr. G. Hodgetts, and tended to the lecturer. It is to be regretted that although the audience was large, it was principally made up of students and



assistants, very few city druggists being present. This lack of interest is much to be deplored, but we venture to say that not only might an evening be thus spent very pleasantly, but, as on the occasion referred to, the information gained could be directly made to pay.

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### NOTICE TO MEMBERS.

The Registrar desires us to call attention to the notice respecting fees, for next year, which fall due on May 1st, and must be paid before June 15th, in order to secure the right to vote at the ensuing election. From what we hear the contest for places on the Council is likely to be keen, and is anticipated with considerable interest.

The election will take place on Wednesday, July 4th. Nominations may be made one month previous to date, but must be sent in to the Registrar, and be received by that officer, not later than twenty days prior to the election. The voting will close on noon of July 4th.

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## Editorial Summary.

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**MEDICINES** or pharmaceutical preparations cannot be patented in France.

**STAINS** of potassium bichromate may be removed by sulphurous acid, or solution of hyposulphite of soda containing sulphuric acid.

**THE** Paris Academy of Medicine offers prizes to the amount of \$12,000, one of \$5,000 being for a satisfactory remedy for diphtheria.

**THE** Medical Register of Great Britain now comprises 23,801 names. There are 5,257 on the Dentists' Register, of whom only about 85 per cent. have passed any regular examination.

**THE** PHARMACIE CENTRALE DE FRANCE, a wholesale drug

concern, controlled by a Company numbering among its shareholders some 2000 pharmacists, did a business last year of over \$2,000,000.

THE plant yielding tonga is said by Mr. N. E. Brown to be *Epipremnum mirabile* rather than *Raphidophora vitiensis*. Both names indicate the same species, but the former is much the older designation.

ON the supposition that gonorrhœa is of parasitic origin, a French surgeon tried injections of oxygenated water, of a strength of one per cent., down to one quarter per cent., with very satisfactory results.

A WRITER in the *Pharm. Zeit. fur Russ.* adds still further to the list of substances which may be used to conceal the odor of iodoform. Oil of turpentine or eucalyplus, preferably the latter, are said to be quite effectual.

IN a note in the *American Journal of Pharmacy*, F. C. Lehman says that in making tincture of iodine, U. S. P., the addition of a small quantity of common salt quickly causes the iodine to dissolve, and the use of the mortar may be thus obviated.

THE value of the chemical manufactures made in the United States, last year, was \$117,377,324. This composes artificial manures, over \$19,000,000; soaps, \$20,000,000; white lead, nearly \$9,000,000; dry colors, over \$4,000,000; sulphuric acid, \$3,600,000; and nitro-glycerine, nearly \$2,000,000.

THE cultivation of the poppy for opium in Persia is a comparatively new industry, but last year's crop amounted to 13,500 pounds. The silk worm disease has much interfered with the product for which Persia was once famous, and silk culture is now giving place to the production of opium and rice.

IN answer to an enquiry as to the nature of *petroleum mass*, a correspondent of the *Druggists' Circular* says that it is a brownish yellow mass deposited in the bottom of the crude oil tanks in the oil regions. It is known to oil men as B. S., which the editor puts into Latin as *Bovis stercus*, so as not to offend ears polite.

For the administration of kava in gonorrhœa the following formula is used in this city. Fluid ext. kava, 3 parts; fluid ext. hydrastis, 1 part; glycerine, 4 parts. Mix; dose: a teaspoonful three times a day. The remedy is a valuable one for this disease as well as for gleet, and the disagreeable effects of copaiba on the digestion are altogether avoided.

F. M. TILTON (*Amer. Jour. Pharm.*) prepares a citrine ointment, which is not affected by the use of metallic spatulas, by dissolving one and a half drachms of mercury in two drachms of nitric acid, and having melted together four drachms of lard and twelve and a half drachms of neats'-foot oil, at a heat of 170°, adds half a drachm of powdered camphor, and, finally, the mercury solution, in the usual way. The camphor is supposed to exercise a beneficial action.

THE highest price ever known to have been paid for musk, says the *Chemist and Druggist*, was realized at a recent sale in London (Eng.), when two tins, of 20 ounces each, were offered, and after spirited bidding, were disposed of to an American firm at 105s. per oz. The quality was poor, the pods being small, thin, unshapely and damp; but, owing to restrictions placed by the Chinese Government on the killing of the deer, musk is now very scarce. Lots of prime are now held in London at 160s.—twice the value of gold.

THE new United States and German Pharmacopœias were published simultaneously, and in a review of the former, in the *Chemist and Druggist*, the writer points out some serious discrepancies. Thus, in the tables of solubilities in the U. S. P., 1 part of benzoic acid is said to dissolve in 500 parts of water, but according to the Ph. Germ. 400 parts suffice to effect solution. Again, the difference in the case of salicylic acid is 1 in 450 to 1 in 600; tannic acid 1 in 6 to 1 in 4; atropia sulph. 1 in 1 to 1 in 0.4; phosphate of sodium, 1 in 6 to 1 in 10, etc., etc. Our contemporary cruelly remarks that "Pharmacopœia compilers should verify the text-book statements which they utilize."

A CASE of poisoning by Boschée's German Syrup is given in the *Druggists' Circular*, which quotes from the *Medical News*. Dr.

H. C. Suttée, of West Plains, Mo., was called to see a dying infant, which was supposed to be suffering from a cold. An examination revealed the fact that it was a case of opium poisoning, and, on enquiry, the mother of the child said that she had given it three or four drops of Boschee's Syrup. Untoward symptoms had almost immediately followed, and the child died in thirty hours after taking the syrup. There was no discoverable pulmonary or bronchial lesion.

THE quantity of resin in commercial extracts of aloes was made the subject of a paper read recently before the North British Branch of the Pharm. Society, by R. Aitken. Twelve samples examined showed amounts of resin varying from six to twenty-five per cent. The presence of this substance arises either from imperfect separation in the first instance, or the employment of heat for the evaporation of the extract. It was found that by dissolving the aloes in boiling water, and allowing the solution to cool, separating the resin, and then evaporating by a current of warm air, a good preparation could be secured, but, even by a water-bath, the drug is quickly changed and resinified.

MESSRS. CALVERT & CO. write to the *Chemist & Druggist* in regard to a recent case of poisoning in St. Louis, U.S., reported to have been caused by the inhalation of the fumes of carbolic acid. The possibility of this is denied by the firm, who assert that the vapor may be safely inhaled, in considerable quantities, and with beneficial results, where bronchial or tuberculous affections exist. They have never known any serious injury to result from accidental spilling of the acid on the skin, when it was immediately wiped off, and a little oil applied. In all cases the application of water should be avoided. If taken internally, sweet or castor oil, in large doses, should be at once administered.

THE pedigree and origin of wheat are traced out by Professor Grant Allan, in the *Popular Science Monthly*, who says that the great cereal is of most illustrious ancestry, being directly descended from the lily. Its lineage is traced from the time when the first erratic plant diverged from the common stock of the lilies and the water plantains, until it became a rush or sedge, and then a still more degenerate grass, when savage man found it

growing wild on the untilled plains of prehistoric Asia, and took it under his special protection, in the little garden plots around his wattled hut, until, by continuous cultivation, it acquired its grain bearing qualities. Blood will tell, after all, and though wheat be merely a "degenerate and degraded lily," it still retains the dignity of the old stock.

C. T. HALLBERG, of Chicago, in experimenting on ten pounds of senega, found it practically impossible to make an "abstract" after the formula of the new U. S. P. The root yielded to alcohol twenty-five per cent. of a greenish-yellow, homogeneous, and very viscid extract, which, when mixed with the quantity of milk sugar ordered, maintained a dough-like consistence, even after four weeks' drying. It could not, therefore, be powdered, and the writer thinks that even if this could be accomplished, the abstract would quickly resume a pasty consistence. Squill and uva ursi are also thought unfit for the preparation of concentrated powders. Mr. Hallberg's experiments are detailed in the March number of the *Druggist*.

THE emmenagogue properties of manganese are made the subject of a paper, by Drs. Ringer & Murrell, in a late *Lancet*. They present a record of sixty-nine cases, their observations extending over thirteen months. From the results there can be no question of the decided uterine tendency of the remedy. It may be administered in the form of permanganate, in doses of from one to two grams, three times a day, for three or four days before the expected period. A mixture of binocide of manganese and manganate of soda will also answer the purpose. The best results were observed in the cases of young females, who, from having taken cold, or some like cause, had missed one or two periods. In the dose stated—nor indeed in any other—the remedy is not asserted to possess the power of producing abortion, though, of course, its use should be avoided in cases of pregnancy.

A GREAT stir has been created in Paris, France, by the discovery that a number of the large hospitals in that city have been supplied with quinine of only about one-third strength, the remainder being the sulphates of cinchonine and cinchonidia. The so-called quinine was obtained in tins from a Paris firm selling

hospital supplies, and was supposed to be from the great Milan House, the Fabrica Lombarda. It was at first claimed by the Paris journals that the fraud was perpetrated by the manufacturers, and an enquiry is now before the tribunals, but, meanwhile, the Italian house have published a *fac-simile* of a letter sent to them by the Paris supply concern, admitting that the substitution was done by the latter. Cones of sulphate of quinine reached from the mouth to the bottom of the tins, the sides being filled in with the other cinchona salts. The Fabrica Lombarda have entered actions for damages, and it is to be hoped will succeed in getting some reparation for the great injury done to them.

A USEFUL device for filtering syrup is noticed by the *Chemist & Druggist*. It is the invention of a Homburg pharmacist, and was first described in the *Pharm. Zeitung*. Into an ordinary calcined magnesia bottle is fitted a rubber cork, pierced with two holes. Into one is inserted a funnel, and into the other a short piece of glass tube, fitted with a few inches of rubber tube terminating in another bit of glass tube to use as a mouthpiece. Into the lower part of the funnel is fitted a cover of wire gauze to prevent the bursting of a filter with which the funnel is provided. When the syrup is poured in, and the filter damped all round, the air is sucked from the bottle by means of the rubber tube, which is then closed by a pinchcock. Filtration goes on rapidly, and with little attention, the air only requiring to be exhausted when refilling the filter. It is said that six or seven pounds of syrup can be thus filtered during an afternoon. Perhaps this device might be turned to good account for elixirs.

IN a paper on musk-rat musk, for which, by the way, the title "American musk" is not inappropriate, the author, R. S. Christiani (*Oil Paint & Drug Reporter*) says that since his first paper on the subject he has had many inquiries from soap makers and perfumers regarding this product, and where samples have been given, the reports have been generally satisfactory. It has proved a valuable article for toilet soaps, as frangipanni, violet, and heliotrope; and also for sachet powders, combined with orris, vanilla and tolu, as it gives great permanency. It makes a good tincture for confectioners' use in manufacturing musk lozenges and cachous, the taste being pleasant and lasting as true musk, though not so fine and

delicate. It is stated that for toilet waters, handkerchief extracts, and the like, its use will remain limited, for the odor, though strong, is not sufficiently delicate for a refined taste. The addition to the tincture of a little hydrate of calcium, with a portion of hydrate of potassium, softens the odor and helps the solvent power of the menstruum.

THE class of "abstracts," official in the new U. S. Pharmacopœia, are regarded with disfavor by Dr. Squibb, who, in a recent number of *Ephemeris*, takes up the subject. It is claimed that there is very little demand for these abstracts, and what there is comes from druggists rather than doctors. That they require a troublesome, expensive, and hurtful process to effect very little in the way of concentration, condensation, and convenience. "For instance, a pound of the powdered drug, costing not over forty cents per pound, in any case, except one, is represented by half a pound of abstract, costing at least four or five times as much, with a concentration of but one half. The physician who desires to give sixteen grains of powdered conium seed at a dose, would have to give eight or ten grains of the abstract in order to represent it, while of the present official extract he would only need about three grains." It is claimed, and, as far as we can see, justly, that these new preparations are unnecessary and useless, and that the introduction of a few powdered extracts would have served all the purposes much more effectually.

THE most remarkable results, in scrofulous and tuberculous diseases, are ascribed to a mixture of the roots of Virginia China, (*sarza pseudo-China*); devil's bit (*Helonias dioica*); and Virginia sarsaparilla, (*Menispermum Canadense*), by Dr. L. B. Anderson, of Virginia, in the *Therapeutical Gazette*. A tea made of these roots had been used with great success by a quack doctor in the Southern States, about the beginning of this century. The writer's father, who was a medical man, obtained the recipe, and for many years used a decoction made of the roots. Dr. Anderson, Jr., has also given the medicine a very long trial, but principally in the form of an alcoholic tincture, and with equally satisfactory results. In several apparently hopeless cases the medicine was used in conjunction with syrup of sanguinaria and nitric acid; or sanguinaria, cimicifuga, verbascum, or marrubium. The effect produced was

such "as few dared to hope for and fewer still anticipated." The properties of the remedy are described as those of an alterative tonic, while an expectorant action may be imparted by combining such drugs as those above enumerated. The dose of the mixed root is equal to about twenty grains, administered three times a day.

MR. M. CONROY, of Liverpool, has examined over 4,000 samples of Montserrat lime juice, each representing a puncheon of 100 gallons, and finds the average percentage of free citric acid, as estimated by a volumetric solution of caustic soda, to be 7.84, equaling 12.54 ounces of acid in each imperial gallon. If pressed from fresh sound fruit, carefully put into puncheons, and afterwards racked off and bottled, Mr. Conroy does not consider that any alcohol is required for the preservation of the juice. Lemon juice will not, however, keep without alcohol, and it is said that not less than 30 per cent. of proof spirit, or its equivalent of stronger alcohol, is required for this purpose. Mr. Conroy gave these facts in a paper read at a meeting of the Liverpool Chemists' Association, and in proposing a vote of thanks, Dr. Symes alluded to a method of preservation he had suggested some twenty years ago, consisting in heating the clarified juice for about ten minutes, at a temperature of  $150^{\circ}$ , and corking and sealing over quickly. This had been found to answer well, but Mr. Conroy said that he considered heat injurious and unnecessary. From the paper read, and also the discussion that it elicited, we can only conclude that the remarkable keeping qualities of Montserrat juice are to be attributed to the fact that none but fresh fruit is used; that it is not allowed to become too ripe; that it is pressed quickly, and as quickly bunged up; that only the first two-thirds of the juice is reserved for lime juice, the balance, consisting of the last pressings, loaded with mucilage and pulp, being used for the manufacture of citric acid; and that the juice before being bottled is either filtered or decanted from all sedimentary or flocculent matter.

MR. HENRY MACLAGAN, in the *Druggists' Circular* for March, points out the very uncertain character of protoiodide of mercury made by the official process—trituration of the constituent elements with subsequent washing with alcohol to remove biniodide. By the treatment with alcohol much of the per salt escapes, as it forms in hard metal-like concretions, on which the spirit has no



effect, unless the lumps are broken by long continued trituration. If protoiodide made in this way be sifted through a sieve of 100 meshes, a number of little grains will be revealed, which, on being further powdered, or crushed with a spatula, on a piece of white paper, will be seen to be compound of the red iodide. Mr. Maclagan used various other processes, and, at last, succeeded in finding one that gave perfect results, and with which he has already made some sixty pounds of the salt. It consists in precipitating mercurous nitrate with potassium iodide. The formation of a proto-salt of mercury is ensured by using an excess of the metal, with acid of Sp. gr. 1.42, diluted with five parts of water, keeping the temperature less by means of ice, and stirring constantly as long as red fumes are given off, adding finally as much water as necessary to complete the solution. The solution of potassium iodide must be very dilute, and added slowly, with constant agitation. The precipitate should be washed by decantation. It is as pure and true protoiodide, of a fine yellow color, with scarcely a tinge of green. The writer thinks the title *viride* should be discarded, as misleading, and *flavum* substituted. The dose of the official salt is very variously stated, some authorities give half a grain, and others five grains, as the maximum dose. No doubt much of this uncertainty comes from the variable character of the product. We should be glad to learn what the experience of physicians is respecting this pure salt.

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## Correspondence.

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### CYPHER PRESCRIPTIONS.

*Editor Pharmaceutical Journal.*

DEAR SIR,—The following prescription came before me to dispense a short time ago :

R Mistura Tussis, No. 1..... 3 vi.

The person for whom it was prescribed was directed by the physician to go to one particular druggist to have it put up, but, for reasons of his own, presented it to me. Of course I was unable

to dispense it, *Mistura Tussis* No. 1, evidently being something deeper in the Pharmacopea than I have yet studied. I had hoped that the physicians and druggists of this city were more honourable than to stoop to such practices—and no doubt most of them are—for to my mind, the object is to make money out of the patient, who generally has to pay well for such mixtures, and to throw trade into the druggist's hand for which he probably pays the physician a percentage. A question or two occurs to me here. Should I have not been as justified in dispensing any ordinary cough mixture, as the physician was in prescribing it? or could the doctor refuse me the formula of *Mistura Tussis* No. 1, had I returned the prescription to him for an explanation. I think it would not be a bad plan, whenever such instances come to light, to publish the names of both physician and druggist who enter into such an arrangement. It might, perhaps, have a salutary effect, as I presume they would not like to have their little game made public.

Hoping that others, who no doubt have similar instances coming before them, will speak out, so that we may form an idea as to how far the practice extends.

Yours truly  
FREE TRADE.

Toronto, March 28, 1883.

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## PHARMACEUTICAL ASSOCIATION OF THE PROVINCE OF MANITOBA.

### ANNUAL GENERAL MEETING.

The annual general meeting of the Pharmaceutical Association of Manitoba was held on Wednesday evening, February 21st, in the rooms of the Association in Winnipeg. There were present Messrs. Wm. Whitehead, President; Jas. Colcleugh, Selkirk, Vice-President; D. L. McIntyre, Secretary-Treasurer and Registrar; W. J. Mitchell, N. H. Jackson, W. B. Hutton, H. S. Webber, Jas. Parker, and H. E. Neelands, Winnipeg; and B. M. Canift, Portage la Prairie. Mr. Whitehead, the President, occupied the chair, and opened the proceedings with an address, in which he referred to the progress the Association has made since its organization in March, 1878.

The minutes of the last annual general meeting were read and adopted.

Mr. D. L. McIntyre then submitted his annual report as Secretary-Treasurer and Registrar, as follows:

*To the Pharmaceutical Association of the Province of Manitoba.*

GENTLEMEN,—Your Secretary-Treasurer and Registrar begs leave to submit his first annual report :

My predecessor, Mr. James Stewart, having resigned his position as a member of the Council, at a meeting held on the 5th of July last, I was elected in his stead and appointed Secretary-Treasurer and Registrar.

Under the direction of the Council the first regular semi-annual examination of candidates for admission as members was held on the 18th and 19th days of October last. The examiners' report showed three candidates to have passed a satisfactory examination, and the names have accordingly been placed upon the register.

Besides this number, there have been sixteen others registered as members during the year of parties who produced the necessary qualifications to comply with the requirements of the Act, making a total now registered of thirty-two members. The names of only one "certified apprentice" and one "certified clerk" appear on the register. This shows that certainly, as far as apprentices and clerks are concerned, the act has heretofore been practically a dead letter, and I have reason to believe that there are also some parties now carrying on business in the Province who are not registered.

All will agree that this state of affairs should not exist, and I trust that every member of the association will give his aid and co-operation in remedying the matter, believing it to be to the best interests of the association, not only that the Act should be enforced in regard to themselves, but that all apprentices and clerks should be duly examined and registered under the provisions of the Act.

With the assistance of the different members of the association throughout the Province, I will make an effort to obtain the names of all apprentices and clerks now employed in business in the Province, and notify each to attend the next regular semi-annual examination.

Should the ordinary means within the power of the Council fail to bring all violators to recognize the provisions of the Act, I would recommend the appointment of a public prosecutor, such as exists in the other Provinces of the Dominion, such individual to have instructions to have the Act rigidly enforced.

All members in arrears for fees have been notified of the same, and I am happy to be able to report that a large number have responded. At present, there are only three registered members in actual business in the Province in arrears.

I herewith submit a detailed statement of receipts and expenditures for the year ending February 21st, 1883.

## RECEIPTS—CASH DR.

To balance received from former Treasurer .....	\$ 41 75
“ registration fees.....	245 00
“ renewal fees .....	75 00
“ examination fees .....	75 00
	<hr/>
	\$436 75

## EXPENDITURES—CASH CR.

By horse hire .....	\$ 35 00
“ examination fees refunded .....	30 00
“ advertizing semi-annual examination .....	20 00
“ rent of rooms.....	7 50
“ stationery and postage.....	12 50
Balance on hand.....	331 75
	<hr/>
	\$436 75

All of which is respectfully submitted.

D. L. McINTYRE,

*Secy.-Treas. and Registrar.*

On motion of Mr. Colcleugh, seconded by Mr. Mitchell, the Registrar's report was received and adopted.

The Auditors' report was next presented as follows :

*To the Pharmaceutical Association of the Province of Manitoba.*

GENTLEMEN,—We, the undersigned auditors, appointed to audit the books of the association, beg leave to report that we have carefully examined the books of the Secretary-Treasurer and Registrar for the last year, and compared vouchers with same, and have found everything correct.

All of which is respectfully submitted.

W. J. MITCHELL,

JNO. E. LETHBRIDGE,

} *Auditors.*

It was moved by Mr. Jackson, and seconded by Mr. Neelands, that the Auditors' report be received and adopted. Carried.

The remainder of the evening was spent in the careful consideration of the Act of Incorporation, clause by clause. The members present agreed in the expression of a strong feeling that certain amendments were required, and on motion of Mr. Mitchell, seconded by Mr. Hutton, the President, Vice-President, Mr. Neelands, and the mover, were appointed a committee to confer with the solicitor of the association, prepare a draft of the amendments proposed, and apply for legislation on the same.

The five members of the Council, by whom the officers are chosen, were elected last year, and according to the Act will serve for two years; hence no election was held at this meeting.

The meeting adjourned at 10.30, and the members were afterwards entertained by the President to an oyster supper at the Board of Trade Hotel, where a very pleasant social time was spent until midnight.

## Practical Formulæ.

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**PASTE FOR LABELS.**—Soak glue in strong vinegar, heat it to boiling, and add to it a quantity of fine flour until it becomes very thick. This paste adheres strongly to glass, etc., and may be kept, without spoiling, in a wide-mouthed, glass-stoppered bottle. Should it become too thick, a small quantity may be removed and warmed, when it may be readily applied to paper.

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### NEW SYMPATHETIC INK.—

Linseed oil.....	1 part.
Ammonia .....	20 parts.
Water.....	100 “

Writing with this is invisible. Dip the paper in water and it appears and can be seen till the paper is dry, when it again disappears.

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### GLACIALINE.—This well-known preservative consists of

Boric acid.....	6 parts.
Borax .....	3 “
Sugar .....	3 “
Glycerine.....	2 “

—*Chemist's Journal.*

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**MAGNETIC OIL.**—Mr. Percy Lawton, of Sycamore, Ill., gives the following formula for this article,” as it was before Mr. Patchin saw it:”

Oil Hemlock	Oil Cinnamon
“ Cedar	“ Sassafras aa
“ Origanum	Wormwood 1 oz.
Capsicum pwd. one tablespoonful.	
Alcohol, one gall.	

—*The Druggist.*

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**TO CLEAN BRASS SCALE-PANS.**—Pour sufficient ammonia in the pan to cover the bottom, and rub briskly till dry with a handful of dry pine sawdust. For very dirty pans, take about a drachm of bichromate of potash, powder it in a mortar, mix it with two or

three times its bulk of concentrated sulphuric acid, and add twice as much water. With this rub the pans (having a care for the fingers), rinse well, and finish with rotten stone.—*Stearn's New Idea.*

**HORSFORD'S ACID PHOSPHATE.**—The precise process by which this preparation is made is not generally known, that is, the proportion in which bones and sulphuric acid are used and the method by which the absence of meta- and pyro-phosphoric acid is insured. Still, there is no secret about the preparation, its composition being as follows, according to the analysis published by the manufacturers.

One fluid drachm contains:

5½	grs.	free phosphoric acid ( $P_2O_5$ ).
3	"	phosphate of calcium ( $Ca_3(PO_4)_2$ ).
½	"	" magnesium ( $Mg_3(PO_4)_2$ ).
¼	"	" iron ( $Fe_2(PO_4)_2$ ).
¼	"	" potassium ( $K_3PO_4$ ).

Total amount of phosphoric acid, free and combined, in one fluid drachm, 7 grains. It contains no meta or pyro-phosphoric acid. We have changed the formulæ given in the manufacturers' circular from the old into the new notation.—*New Remedies.*

**THEATRE GREASE PAINT.**—(*Fatty Face Paint*).

White—

White Wax .....	2	parts.
Oil Olive (or sweet almonds)...	3	parts.
Talc, powdered .....	1	part.
Zinc, Oxide .....	½	part.

By the pound worth 70 cents.

Or—

Chloride Bismuth.....	5	parts.
White Wax .....	2	"
Oil Sweet Almonds.....	5	"

By the pound worth \$1.60.

For RED.—Take the above basis and add q. s. carmine. The most approved proportion seems to be 1 carmine to 40 base and the best procedure would probably be:

Carmine.....1 part.

Water of Ammonia (q.s. till dissolved) say 4 to 8 parts.

Rub intimately with Powdered Talc (6 parts) till dry, then rub with basis—

White Wax ..... 13½ | parts. |

Oil (Olive or Almond) ..... 20½ | " |

By the pound worth \$1.00.—*New Idea.*

# Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor not later than the 25th of each month.

## ARTICLES FOR SALE.

**TUFTS' ARCTIC SODA APPARATUS.**—One draught tube, and eight syrups. Has been in use only 3 years; good as new; also two cylinders. Address, Dr. Fowler, The Pharmacy, Wingham, Ont.

**WILSON'S INORGANIC CHEMISTRY,** new notation, second hand, but in good condition. Price 75 cents. Address, J. S., 53 Front Street East, Toronto.

**SMALL STEAM ENGINE,** about 3 horse power, upright, in first-class order, suitable to drive a small mill. Price \$75.00. Address, B. C., 53 Front St. East, Toronto.

## BUSINESS FOR SALE.

**DRUG BUSINESS.**—One of the best stands in Hamilton, paying well and improving, dwelling and good garden attached. Stock well assorted and none bad; about \$100 worth of stationery. Price \$1,500. Owner going to the North-west. Address, S. C., care J. Winer & Co., Hamilton.

## BUSINESSES WANTED.

**J. F. Holden,** now carrying on business at Alton, is desirous of removing to a larger town, and wants to purchase a live business in a thriving place. Is prepared to pay part cash, say \$1000, and balance as may be arranged.

## SITUATIONS VACANT.

**JUNIOR ASSISAANT.**—Josiah Green, 382 Queen Street West, Toronto, wants a junior; must be well educated and a good dispenser.

## SITUATIONS WANTED.

**ASSISTANT,** in wholesale or retail. London and country experience: good references; age 22; height 5 ft. 10 in. Address, Druggists' Assistant, 120 Shuter Street, Toronto.

**ASSISTANT**—G. A. Bingham, Hub Hotel, Toronto; has attended lectures at College and obtained diploma; 5 years experience.

**ASSISTANT.**—Four years' experience accurate dispenser and good salesman; competent to take charge or keep books. Unexceptional references from present employer and physicians. Address, G., Box 296, St. Marys, Ont.

**IMPROVER.**—A fourth year student in Medicine wants a situation for a year with a doctor or druggist—the former preferred. Best of city references. Apply, stating terms, to Dr. A. H. Wright, 20 Gerrard St. East, Toronto.

**IMPROVERS.**—Two young men, aged respectively about 20 years; have had some experience, and are now employed in Montreal; best references; desire to obtain situations in Toronto, so that they may attend the College here. Address XX, 53 Front Street East, Toronto.

**PACKER.**—A Johnson, 116 Huron Street, Toronto, has been with C. C. Green, of Toronto, who will give references.

**ASSISTANT.**—Walter Keene, 120 Shuter Street, Toronto, has served his time in England, and can give good references.

**ASSISTANT.**—A. Denoon, Milton West, five years' experience in retail; graduate O.C.P., wants a situation in wholesale establishment.

**IMPROVER.**—J. McEachern, Galt; two years with Gibbard Brothers, wants a situation in Toronto.

## WANTED TO PURCHASE.

**SODA WATER FOUNTAIN**—Anyone wishing to dispose of such an article may send description and price to J. A. Wallace, Druggist, Brantford.

## BUSINESS NOTES.

A. Metcalfe, of Toronto, has purchased the business of W. H. Scripture, 462 Queen Street West, Toronto.

C. A. Mitchell, who for a number of years has had a business at the corner of Queen and Church Sts., Toronto, has sold out to R. N. Dickson, formerly of Ottawa.

Robert Brydon, of Newbury, has called a meeting of his creditors to settle old composition notes of a former assignment.

R. A. Wilson, of Brockville, has absconded. All the goods he left behind are in the hands of the sheriff.

## BUSINESS NOTES (CONTINUED).

A. M. Rolls, of Chatham, has sold out to William Rolls, who previously conducted a business at Guelph.

B. A. Mitchell, wholesale druggist, London, has sold out to Kerry, Watson & Co., Montreal. The style of the firm is the London Drug Co.

Veitch & Neil, general store and drugs, Plattsville, have dissolved. The business is continued by W. M. Veitch.

W. O. Foster has purchased the stock belonging to the estate of C. Mitchell, St. Thomas. Mr Foster was formerly manager for Austin & Co., Simcoe. Brewster & Allen, Ridgeway, have dissolved; Dr. Brewster continues the business.

C. A. Shepard & Co., Lucknow, have sold out to G. W. Berry, who has several times had this business in his hands.

## MARKET REPORT.

Business has been moderately active, but, no doubt, has been much retarded by the heavy snow storms, which, though not unseasonable, are seldom regarded with favor, and, this year, have been unusually severe, rendering many of the roads for the time unpassable. The lateness of spring has had a depressing effect on trade, but a busy time is now anticipated.

*Opium.*—The market is without change, and without much demand. Morphas are locally scarce.

*Quinine* is, if anything, a little easier, on account of absence of demand. Wholesale houses refuse to send out quinine in paper unless purchasers bear the discount of shrinkage by drying. Cinchonidia is a trifle lower.

*Miscellaneous Drugs.*—Musk has doubled its former price, and is now quoted at \$43.00 per ounce. Insect powder is beginning to move and is low in price. New forms of insect guns and bellows are coming into market. Chloroform, German, has advanced considerable on account of the price of chloride of lime having more than doubled. Tartaric Acid, Cream of Tartar and Rochelle Salt are rather firmer. The tendency of Soda Bicarb is towards lower figures. Saltpetre has fallen a shade. Essential Oils show no change worthy of remark. Beeswax is entirely out of the market.

*Paints and Oils.*—Turpentine is lower, probably in anticipation of a possible lowering of the Customs duty. Raw and Boiled Oil and Paints in Oil are steady at former prices. Whiting has advanced on account of local scarcity.



DRUGS, MEDICINES, &c.	\$ c.	\$ c.
Acid, Acetic, fort ..... per lb	0 12	@ 0 14
Benzoic, pure .....	0 13	0 30
Carbolic, cryst., med .....	1 25	1 50
" com .....	0	0 50
Citric .....	0 80	1 00
Gallic .....	1 60	1 80
Muriatic .....	0 03½	0 06
Nitric .....	0 10½	0 15
Oxalic .....	0 18	0 19
Salicylic .....	2 25	2 40
Sulphuric .....	0 02½	0 05
Tannic .....	1 25	1 40
Tartaric, pulv .....	0 05	0 75
Ammon., carb. ....	0 21	0 24
Bromide .....	0 75	0 90
Iod de .....	4 00	5 00
Liquor, 88o .....	0 20	0 22
Muriate .....	0 14	0 15
Æther, Nitrous .....	0 27	0 45
Sulphuric .....	0 50	0 60
Antim. Nig., pulv .....	0 15	0 17
Tart .....	0 55	0 60
Alcohol, 95 per ct., bbl ..Cash	2 75	3 10
Arrowroot, Jamaica .....	0 14	0 22
Bermuda .....	0 45	0 65
Alum .....	0 02½	0 03½
Balsam, Canada .....	0 45	0 50
Copaiba .....	0 90	1 10
Tolu .....	1 00	1 10
Bark, Bayberry, pulv. ....	0 18	0 20
Canela, .....	0 12	0 14
pulv. ....	0 20	0 22
Peruvian, yel. pulv. ....	0 25	0 50
red " .....	1 60	2 40
Prickly Ash .....	0 30	0 40
Slippery Elm, grd. bulk ..	0 18	0 25
flour, packets..	0 28	0 32
Sassafras .....	0 12	0 16
Wild Ch. rry.....	0 10	0 12
Berries, Cubebs, ground. ....	0 95	1 40
Juniper .....	0 07	0 10
Beans, Tonquin .....	1 40	2 75
Vanilla .....	8 50	10 50
Bismuth, Trisnit. ....	2 50	2 60
Carb. ....	2 60	2 70
liquor .....	0 35	0 55
Borax, refined .....	0 17	0 20
Camphor, American .....	0 35	0 37
English .....	0 48	0 50
Cantharides .....	1 50	1 60
Powdered .....	1 60	1 75
Chiretta .....	0 30	0 40
Chloroform. Pure .....	1 15	1 75
" D. & F .....	1 90	2 00
" German .....	0 60	0 70
Chloral hydrate .....	1 35	1 60
Cinchonine, Muriate .....	0 47	0 48
Sulphate .....	0 34	0 42
Cinchonidia, Su'phate .....	1 00	1 20
Cochineal, S. G. ....	0 45	0 50
Black .....	0 45	0 50
Collodion .....	0 75	0 90
Cutt e-Fish Bone .....	0 35	0 40
Ergot .....	0 60	0 80
Extract Belladonna. ....	3 10	3 10
Colocynth, Co. ....	1 25	1 75
Gentian .....	0 50	0 60
Hemlock, Ang .....	1 00	1 05
Henbane, .....	3 00	3 50
Jalap .....	2 50	3 00
Mandrake .....	1 75	2 00
Nux Vom. ....oz	0 20	0 30
Opium .....	0 90	0 00
Rhubarb .....	4 00	5 00
Sarsap. Hon. Co. ....	1 00	1 20
" Jam. Co. ....	4 00	4 50
Taraxacum, Ang .....	0 65	0 80
Flowers, Arnica .....	0 20	0 25
Chamomile .....	0 40	0 50
Full 's Earth .....	0 03	0 04
Gum, Aloes, Barb .....	0 35	0 70
" Cape .....	0 20	0 25
powdered ..	0 23	0 25
" Socot. ....	0 54	0 75
" pulv .....	0 62	0 80
Arabic. Select .....	0 40	0 45
" powderd ..	0 45	0 55
" sorts .....	0 18	0 20

DRUGS, MEDICINES, &c.—Contd.	\$ c.	\$ c.
Gum Arabic Sorts, powdered ..	0 20	0 30
Assafetida .....	0 20	0 25
Benzoin .....	0 50	0 80
Catechu .....	0 12	0 15
" powderd. ....	0 20	0 25
Gamboge .....	1 00	1 25
Guaiacum .....	0 65	1 00
Myrrh .....	0 45	0 85
Sang Dracon .....	0 15	0 45
Scammony, powderd. ....	4 90	5 50
" Virg. ....	12 50	14 00
Shellac, Orange .....	0 35	0 45
Shellac, liver .....	0 33	0 38
Storax .....	0 05	0 50
Tragacanth, flake .....	0 65	1 35
" common .....	0 25	0 65
Galls .....	0 20	0 21
Gelatine, Cox's 6d. ....	1 20	1 25
" French .....	0 50	0 80
Glycerine, common crude .....	0 25	0 28
" 30" .....	0 35	0 38
Prices .....	0 90	0 00
Honey, Canada, best. ....	0 22	0 25
Iron, Carb. Precip. ....	0 16	0 20
Citrate Ammon. ....	0 95	1 00
" & Quinine, oz. ....	0 45	1 10
" & Strychine .....	0 18	0 20
Perchloride solution .....	0 16	0 20
Sulphate, pure .....	0 06	0 10
Iodine, commercial .....	2 25	2 50
Resublimed .....	2 75	3 00
Jalapin .....	0 75	1 50
Kreosote .....	0 75	3 00
Leaves, Buchu .....	0 27	0 30
Belladonna .....	0 50	0 33
Foxglove .....	0 27	0 38
Henbane .....	0 25	0 25
Horehound .....	0 15	0 25
Lobelia .....	0 20	0 25
pulv. ....	0 40	0 45
Senna, Alex .....	0 23	0 25
" E. I. ....	0 10	0 14
" Tinneville .....	0 13	0 25
Uva Ursi .....	0 15	0 17
Lime, Chloride .....	0 02½	0 05
Lime, Hypophosphite .....	1 90	2 25
Sulphite .....	0 10	0 11
Lead, Acetate .....	0 13	0 17
" Brown .....	0 09	0 10
Leptandrin .....	0 60	0 75
Lye, Concentrated .....	6 95	1 25
Liquorice, Solazzi .....	0 50	0 55
Martucci .....	0 35	0 37
Other brands .....	0 14	0 35
Magnesia, Carb. ....oz.	0 20	0 25
" 4 oz. ....	0 18	0 22
Calcined .....	0 60	0 70
Citrate .....	0 40	0 75
Mercury .....	0 60	0 65
Ammoniated .....	1 25	1 30
Bichlor .....	0 80	0 90
Biniiodide .....	3 60	4 10
Chloride .....	0 90	1 10
C. Chalk .....	0 49	0 70
Nit. Oxyd .....	1 10	1 30
Morphia Acet .....	2 75	2 95
Mur. ....	2 75	2 90
Sulph. ....	2 25	3 00
Musk, pure grain .....	32 00	.....
Canton .....	0 60	0 70
Moss, Irish .....	0 10	0 15
Oil, Almonds, sweet .....	0 60	0 65
" bitter .....	12 00	13 00
Aniseed .....	3 00	4 00
Bergamot, super .....	3 60	4 00
Caraway .....	3 20	3 50
Cassia .....	1 50	2 00
Castor, E. I .....	0 10	0 12
Cedar .....	0 50	0 71
Citronella .....	1 25	1 50
Cloves, Ang .....	2 50	3 00
Cod Liver, Nor., Imp. Gal	3 50	4 20
" N. F .....	2 25	2 50
Croton .....	1 85	2 00
Hemlock .....	0 45	0 90
Juniper Wood .....	0 65	0 00
Berries .....	0 00	2 00
Lavand, Ang .....	4 50	5 55

DRUGS, MEDICINES, &c.—Cont'd.		\$ c.	\$ c.
Oil, Lavand, Exotic.....lb.		1 40	3 50
Lemon.....		3 20	4 00
Orange.....		3 00	3 20
Neroli, super.....oz.		3 50	5 50
Origanum.....lb.		0 65	0 85
Peppermint Ang.....		13 00	15 00
" Amer.....		3 75	4 75
Rose, Virgin.....oz		13 00	14 00
" good.....		7 00	8 00
Santal Ang.....lb.		9 00	9 75
Sassafras.....		1 00	1 20
Verbena.....		1 75	2 00
Wintergreen.....		4 00	4 50
Wormwood, pure.....		9 50	0 00
Ointment, blue.....		0 50	0 60
Opium, Turkey.....		3 90	4 25
" pulv.....		7 70	9 00
Orange Peel, opt.....lb.		0 35	0 40
" good.....		0 16	0 25
Pill, Blue, Mass.....		0 55	0 75
Potas., Bi-chrom.....		5 14	0 16
Bi-tart.....		0 35	0 40
Bromide.....		0 48	0 55
Cyanide.....		0 52	0 55
Carbonate.....		0 13	0 15
Chlorate.....		0 22	0 25
Iodide.....		2 00	2 25
Nitrate.....		8 75	11 00
Sulphuret.....		0 25	0 35
Pepsin, Boudault's.....oz		1 20	1 20
Morson's.....oz.		0 90	1 00
Phosphorus.....		0 85	1 05
Podophyllin.....		0 45	0 50
Quinine, Howard's.....		2 30	2 75
" German.....		1 90	2 05
Root, Colombo.....lb.		0 30	0 35
Curcuma, grd.....		0 11	0 15
Elecampane.....		0 16	0 17
Gentian.....		0 17	0 20
" pulv.....		0 21	0 20
Hellebore, pulv.....		0 15	0 18
Ipecac.....		1 75	0 00
Jalap, Vera Cruz.....		0 38	0 45
Liquorice, select.....		0 13	0 15
" powdered.....		0 13	0 15
Mandrake.....		0 12	0 20
Orris.....		0 18	0 25
Rhubarb, Trimmed.....		2 25	2 40
" E. I.....		0 85	0 95
" pulv.....		1 00	1 20
Sarsap., Hond.....		0 50	0 65
" Jam.....		0 60	0 00
Squills.....		0 16	0 20
Senega.....		0 95	1 00
Spigelia.....		0 55	0 60
Sal., Epsom.....		0 02	0 02½
Rochelle.....		0 35	0 38
Soda.....		1 25	2 50
Seed, Anise.....		0 12	0 15
Canary.....		6 50	7 00
Cardamon.....		2 40	2 75
Fenugreek, g'd.....		0 08	0 09
Flax, Ont, Cash 100 lbs		3 25	0 00
" Imported.....		3 00	3 00
Hemp.....		0 06	0 06½
Mustard, white.....		0 10	0 15
Saffron, American.....		0 60	0 75
Spanish.....		18 00	0 00
Santonine.....		5 00	5 75
Sago.....		0 08	0 09
Silver, Nitrate.....Cash		13 20	14 00
Soap, Castile, mottled.....		0 08½	0 11½
Soda, Ash.....		0 02	0 05
Bicarb. Newcastle. Keg		3 00	3 60
" Howard's.....lb		0 16	0 16
Caustic.....		2 50	5 00
Spirits Ammon., arom.....		0 40	0 45
Strychnine, Crystals.....oz		1 75	2 00
Sulphur, Precip.....lb.		0 15	0 16
" Sublimed.....		0 03½	0 03½
" Roll.....		0 02½	0 03½
Verdigris.....		0 50	0 55
Wax, White, pure.....		0 65	0 75
Zinc, Chloride.....oz		0 10	0 15
Sulphate, pure.....lb.		0 09	0 12
" common.....		0 06	0 10

DYESTUFFS.

Annatto.....	0 35 @ 0 60
Aniline, Magenta, cryst.....	2 15 2 50

DYESTUFFS—Continued.

Argols, ground.....	0 15 0 33
Blue Vitriol, pure.....	0 06½ 0 08
Camwood.....	0 05½ 0 08
Copperas, Green.....	0 01½ 0 02
Cudbear.....	0 15 0 30
Fustic, Cuban.....	0 02½ 0 03
Indigo.....	0 75 1 00
Extract.....	0 25 0 36
Japonica.....	0 08 0 10
Lacdye, powdered.....	0 33 0 38
Logwood, Camp.....	0 02½ 0 03
Extract.....	0 9 0 12
" 1 lb. bxs.....	0 13½ —
" ½ lb. ".....	0 14½ —
Madder, best Dutch.....	0 12½ 0 14
Quercitron.....	0 03 0 05
Sumac.....	0 06 0 07
Tin, Muriate.....	0 10½ 0 12½
Redwood.....	0 03½ 0 04
SPICES.	
Allspice.....	0 20 @ 0 23
Cassia.....	0 20 0 25
Cloves.....	0 40 0 50
Cayenne.....	0 33 0 37
Ginger, E. I.....	0 12 0 14
Jam.....	0 27 0 30
Mace.....	0 85 1 00
Mustard, com.....	0 20 0 25
Nutmeg.....	0 95 1 00
Pepper, Black.....	0 18 0 20
White.....	0 30 0 33
PAINTS, DRY.	
Black, Lamp, com.....	0 08 @ 0 10
" refined.....	0 18 0 25
Blue, Celestial.....	0 09 0 12
Prussian.....	0 65 0 75
Brown, Vandyke.....	0 05 0 06
Chalk, White.....	0 01 0 01½
Green, Brunswick.....	0 07 0 10
Chrome.....	0 16 0 25
Paris.....	0 23 0 24
Magnesia.....	0 15 0 20
Litharge.....	0 07 0 08
Red Lead.....	0 05½ 0 07
Venetian.....	0 02½ 0 03
Sienna, B. & G.....	0 07 0 08
Umber.....	0 07 0 10
Vermillion, English.....	0 90 1 00
American.....	0 20 0 22
Whiting.....100 lbs	0 85 1 00
White Lead, dry, gen.....lb.	0 06½ 7 00
" No. 1.....	0 05½ 6 00
Yellow Chrome.....	0 09 0 15
" Ochre.....	0 02 0 03
Zinc White, Star.....	0 06½ 0 11
COLORS, IN OIL.	
Blue Paint.....	0 12 @ 0 15
Fire Proof Paint.....	0 06 0 08
Green, Paris.....	0 25 0 30
Red, Venetian.....	0 07 0 10
Patent Dryers, 1 lb tins.....	0 10 0 12
Putty.....	0 03 0 03½
Yellow Ochre.....	0 08 0 12
White Lead, gen. 25 lb. tins.....	1 80 2 00
" No. 1.....	1 60 1 75
" No. 2.....less 7½ pc	1 40 1 50
" No. 3.....	1 20 1 25
White Zinc, Snow.....	2 25 2 35
NAVAL STORES.	
Black Pitch.....	3 50 @ 4 00
Rosin, Strained.....lb	3 60 4 00
Clear, pale.....	5 50 6 50
Spirits Turpentine Imp.Gall.....	0 90 1 00
Tar Wood.....	4 80 5 00
OILS.	
Cod Imp. Gall.....	0 75 @ 0 80
Lard, extra.....	1 10 1 20
No. 1.....	1 05 1 10
Linseed, Raw per gals.....	0 68 0 75
Boiled.....	0 72 0 80
Neats-foot.....	1 30 1 40
Olive, Common, Imp. Gall.....	1 05 1 45
Salad.....	2 11 2 20
" Pints, cases.....	4 00 4 20
" Quarts.....	3 25 3 50
Seal Oil, Pale, Imp. Gal.....	0 90 0 95
Union Salad.....	1 20 1 20
Sperm, genuine.....	2 40 2 50

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## HALF-HOUR WITH THE FLOWERS USED IN PERFUMERY.\*

BY W. A. WRENN.

Allow me to claim your indulgence to deviate slightly from the literal translation of the title of this paper, as, in addition to flowers, I have added a short description of some substances used in the manufacture of perfumes and toilet essences, either for the purpose of fixing the odour, such as ambergris, or as is required in some cases to develop the scent of certain flowers susceptible to such influences, and to give them preponderance, such as musk; or, again, to make a distinctness of their own, such as that caused by the addition of acid benzoic.

Doubtless some may think such a paper as this rather out of place amongst pharmaceutical and chemical data. What right has the pharmacist to engage in the compounding of perfumes—why not leave it to the coiffeur or perfumer proper? is a question which has been asked more than once, and opinions have been much diversified. I myself regard the manufacture of perfumes as a very suitable adjunct to the varied duties of the pharmacist. A sensitive nose is a very useful appendage to a chemist's physiognomy; and what can be a more crucial test than the continual intercourse with essential oils and their varied aroma to detect the numerous admixtures and sophistications which are of every-day occurrence?

Again, the peculiar odour of a pharmacy, so attractive to feminine whimsicalities, is due in the main to the excess of the odour of the perfumes and essential oils over the more nauseous aroma of drugs proper; while in the matter of *£ s. d.* I think a unanimous opinion exists.

With these preliminary remarks, I will ask the attention of

\*A paper read before the Chemists' Assistants' Association on January 17th, 1883, and published in the Chemist and Druggist.

those who, perhaps, have passed over in recollection the interesting and varied metamorphoses between the time flowers are seen in the fields and their ultimate deposition as concentrated extracts in a toilet bottle.

A half-hour is such a limited space of time to treat such an interesting subject that I have decided to mention only those flowers, fruits, &c., which are more largely used. These are bergamotte, cassie, cloves, heliotrope, jasmin, lavender, lemon, mignonette, narcissus, orange, patchouli, pelargonium, rose, rosemary, thyme, tuberose, verbena, and violet; and briefly note ambergris, gum benzoin, musk, orris, tonquin, and vanilla.

**BÉRGAMOTTE**, the essential oil obtained from the fruit of *Citrus bergamia*. It is very similar to the lemon, being golden yellow in colour externally, smooth peel, and pale yellow pulp. The flowers, however, resemble those of the bitter orange. The tree *Citrus bergamia* is cultivated in Sicily, and more especially in the neighbourhood of Reggio. The oil is obtained by expression, though formerly by the sponge process, from the fruit in a partly unripe state, gathered in the end of the year—November and December. New essences are now just arriving in London. The quantity of oil obtained is about 3 oz. from 100 fruits. The oil, when newly prepared, deposits an albumenoid substance, and in a month or so a white fat, called "bergaptene" or "bergamotte" camphor. The green tint is due to chlorophyll, which, in a very minute quantity, may be coagulated by heat and separated by filtration, leaving the oil with a brownish tint.

The sp. gr. is about .880 to .890 in genuine samples. Hanbury gives .860 to .880; some samples gave sp. gr. .858 and .865. These were found to be adulterated, probably with turpentine and ess. of lemon, the sp. gr. of the former being as low as .853, and of the latter .832 to .880. The quantity of oil used in perfumery is very great, and the shipments, which are made principally from Palermo and Messina, are still on the increase.

By mixing together—

	Cubic centimetres.
Ess. bergamotte .....	40
Spirits of wine.....	5
Nitric acid, sp. gr. 1.200 .....	10
Water .....	45

and allowing this to stand for two months, shaking about twice a week, I obtained a fine crop of crystals (sample of which I place before you this evening). They resemble those of terpin hydrate as obtained by Mr. R. H. Parker from oil of turpentine.

Essence of bergamotte is a feature in the perfume Ess. Bouquet, said to be a favourite scent of George IV.

**CLOVES**, the flower-buds from the evergreen *Caryophyllus aromaticus*, are so well known that I will not dwell upon them. Suffice

it to say that the oil to be used in compounding perfumes should always be the finest English drawn, and re-distilled.

The crude oil, and also that known as oil of cloves stems, can be detected by the dark colour, and by giving a "paon" blue colour when shaken up with three times its volume of alcoholic solution of ferric perchloride, and also a deep violet if shaken up with some reduced metallic iron. Oil of pimento might be used instead of oil of cloves, and when the latter is given in a recipe, using half oil of cloves and half pimento, a very good blend is the result. I may also mention that I find an addition of 2 per cent. of ammoniated alcohol to all the spicey oils assists their volatilization.

HELIOTROPE.—This well-known perfume is not often prepared from the flowers of *Heliotropium Peruvianum*, or from the British variety, as one would suppose, considering the powerful odour these flowers emit; a combination of vanilla and violet being the most common substitute.

JASMIN, obtained from two species of *Jasminum*, *J. officinale* and *J. grandiflorum*, of the natural order of *Jasminaceæ*, which also supplies the Lilac (*Syringa*). The jasmine, or jessamine, is a small bush cultivated in the gardens and flower-farms of Grasse, to an extent greater than any other flower, although it is the most difficult to bring to perfection, being very sensitive to changes of temperature and soil. The perfume is greatly increased by the heat of the sun, and a rainy and dull summer between the months of June and October, when the shrub flowers, is as great a disaster to the Grasse perfumer as a wet harvest is to the English farmer. The essence obtained from jasmine is used as a basis for almost every compound scent, and I always form an idea of the status of the Grasse manufacturer by the quality of his jasmine pomade and essence, for, unless very carefully prepared, rancidity will quickly take place.

LAVENDER.—The Natural Order *Labiata* embraces several shrubs which yield very powerful volatile oils used for perfumery and flavouring, and also possessing medicinal properties in the forms of stimulants, carminatives, aromatics, &c. There are three distinct qualities of the oil; two distilled from *Lavandula vera*—Mitcham, or English, and French, principally from Les Alpes Maritimes; and that from *Lavandula spicata*—a very inferior sample, called "oil of spike." The first named—the Mitcham—at the present time, commands a very high price—about as many shillings an oz. as the French oil is worth per lb.—and there is every prospect of still higher prices, as, year by year, when passing through Mitcham and the adjoining villages of Wallington, Carshalton, Beddington, Wadden, Cheam, and Sutton, I have noticed fields once under lavender and mint cultivation fallen prey to the ever increasing inroad of the speculating builder. Ten years ago there

were about 350 acres of lavender; now, I believe, there are not 150 acres. It is also grown at Market Deeping and a few other places—to what extent I am not prepared to say; and I should certainly consider it would pay any speculator to direct his attention to lavender cultivation.

In England the flowers are collected in July and August, when in full bloom, and are generally distilled with the stalks as gathered, the yield being about 20 oz. for every 100 lbs. Take this for granted, and an average crop of 800 lbs. per acre gives 160 oz., or 10 lbs. Now, suppose the increased cultivation should bring down the price of English oil to 100s. per lb.; this shows a value of £50 an acre, and at the rate of 50 per cent. for working expenses, stilling, rent, &c., I believe a very good return could be made. A friend of mine who some five years ago laid down about a quarter of an acre of garden ground has been fully satisfied by the amount realised by the sale of the flowers, even from so small a plantation.

The exotic oil is obtained principally from the South of France, also from Northern Italy, Sicily, and Algeria. The department of Les Alpes Maritime produces the finest samples. The highest hill slopes grow the nearest approach to the Mitcham.

The different qualities exported by the Grasse manufacturers are almost as numerous as the letters of the alphabet, and are distinguished by such terms as essence de lavande cultivée, lavande du Piedmont, lavande des fleurs mondées, lavande éperle, lavande fine, lavande 1<sup>re</sup> qualité, 2<sup>me</sup> qualité, &c. In the neighbourhood of Avignon I noticed some lavender growing, and was told the product was of rather inferior quality, the country being low and flat, and the soil poor. Mont Ventoux, in the same vicinity, which I traversed in my holiday tour, grows lavender of very fair quality; the altitude is about 4,000 feet above sea level.

Lavender oil is used in perfumery largely as lavender water, combined with orange and rose water, and in essences best combined with oil of cloves and benzoic acid.

Essence d'aspic is the distillate of the wild flowery plant *Lavandula spica*, and is rarely found free from adulteration, a certain quantity of prepared turpentine being added in accordance with the price wished for. Camphor is also added to conceal this addition. Oil of spike is used in the arts and also in veterinary practice. It is not produced in Britain, the climate being too cold.

THYME.—Another plant of this Natural Order Labiatae is *Thymus vulgaris*, which yields an oil used in perfumery. It is imported into this country from France; it grows also in the Western Peninsula, Lombardy, and the mountainous shores of the Adriatic and Greece, and is to be found in almost every English country garden for culinary purposes.

The distillation in Southern France is made from June to September, and the two samples of oil of thyme—red and white—are

obtained from the same plant, the redistilling keeping back the colouring matter, but at the same time destroying some of the aroma. I should recommend the red oil in preference to the white, and if the colour (which is often intensified by alkanet) is not desired, animal charcoal will remove it very considerably.

ROSEMARY (*Rosmarinus officinale*) may be now added as belonging to the same Natural Order, growing in the same localities, and under similar circumstances. It is also grown in Britain, and a small quantity of oil is distilled, but, owing to the small amount used, quite a fancy price is the rule.

The last three oils—lavande d'aspic, thyme, and rosemary—are used mostly for soap-scenting, their terebinthinate odour excluding them from the category of the more delicate perfumes.

OIL OF PATCHOULI, from the plant *Pogostemon patchouli*, which is grown in the Malayan archipelago. The oil is much used in perfumery, though, owing to circumstances, not to such an extent as formerly. Chiefly used in conjunction with otto de rose. Owing to its lasting odour a very small quantity only should be used in proportion to other ingredients.

LILY OF THE VALLEY (*Convallaria majalis*), with its pure white, bell-shaped, and delicately-scented flowers, is made into essence and pomade in the Grasse manufactories, and found of great use for perfume-compounding. The plant flowers in early spring, February and March being the best months for manufacturing the essence.

DAFFODIL (*Narcissus pseudonarcissus*) — Daffy-down-dilly—which is found in almost every country in Europe, yields a pleasant perfume. It flowers in Grasse about April, and a little later in England. When once planted in a garden the yield will soon be found greatly in excess of the wishes of the cultivator.

ESSENCE OF LEMON.—This oil, so largely used in flavouring, &c., is also employed in perfumery. Like oil of orange, it is very uncertain in its results, owing to changes in composition consequent on keeping for any length of time. Essence of lemon is prepared in the same manner as essence of bergamotte, but there is a variety termed "essence de citron zeste," which is prepared by simply puncturing the oil-vessels and allowing the oil to run out, collecting it in a receiver, and filtering. This is the best article for use in perfumery, as commercial essence of lemon is generally contaminated with very inferior distillates, or with rectified oil of turpentine, which can be detected by adding some liquor potassæ to a sample and applying heat.

OIL OF ORANGE (*Citrus vulgaris*, *Citrus aurantium*, and *Citrus bigaradia*).—From the fruits are obtained the oils of bitter and sweet orange. This perfume is not very extensively used in perfumery in the shape of oil. The water obtained from the flowers,

distilled during the month of May, is imported in large quantities from the south of France.

From the flowers is also obtained an essential oil, termed "oil of neroli." The best test to ascertain its purity is to shake up a small quantity with a saturated solution of sodium bisulphite, when a permanent crimson colour will be produced. The sp. gr. is .890, and the oil is neutral to test-paper. There are two varieties of oil—essence de neroli bigaradia, and essence de neroli Portugal.

Oil of petit grain is obtained from the leaves and shoots of the above-mentioned varieties, and called "essence de petit grain bigaradia et Portugal."

A mixture of oil of orange and oil of neroli, with other essences, makes a very good substitute for essence of ylang ylang (a sample prepared from a formula by myself is on the table for your inspection). Oil of petit grain is used extensively in the manufacture of eau de Cologne.

*(To be continued.)*

## THE VOLATILE PRODUCTS OF PETROLEUM.

It is a somewhat difficult matter to draw a sharp line of distinction between these articles, since the terms as used in commerce are confused, and manufacturers are unguided by any iron rule. It must be borne in mind that all the products of petroleum are indefinite mixtures of various hydrocarbons, the composition varying with the circumstances prevailing during their distillation. But the subjoined scale has been agreed upon by bookmakers, from which a tolerably good opinion can be formed of the difference in the articles in question. These various fluids are all obtained from crude petroleum by fractional distillation, their specific gravity being the only practicable test for their distinction.

*Petroleum Ether, Petroleum Naphtha, Rhigolin.*—This is the lightest of the series of petroleum distillates, it passing over at a temperature between 45° and 60° C. Its spec. grav. is 0.660—0.665. It is also sometimes known as Sherwood oil, canadol or keroselin ether. This is occasionally employed as a substitute for the ether spray to produce local anaesthesia.

*Gasolin or Keroselin*, distils at 60°—70° C., and has a spec. grav. of 0.605—0.680. This is the fluid sold for the gasolin lamps and stoves, while as a rule this is also meant by people calling for naphtha. It may here be interposed that "naphtha" is of Chaldaic origin, and really designates a bituminous substance found in the Orient akin to crude petroleum. But as now applied the term may also refer to ether on the one hand, and acetone, wood naphtha, on the other.



*Benzin* distils at between  $70^{\circ}$ — $120^{\circ}$  C., and has a spec. grav. of 0.685—0.710. This in pharmacy and chemistry should invariably be designated as petroleum benzin, to distinguish it from coal-tar benzin, until such time as "benzol" shall have been universally adopted for the latter. Much annoyance has been created by this inexcusable confusion introduced into chemical nomenclature. Some jobbers call this benzin deodorized naphtha.

Light petroleum, used in the arts, is obtained at  $120^{\circ}$ — $150^{\circ}$  C., and has a spec. grav. of 0.740—0.750, whereas

Kerosene, or illuminating carbon oil distils at  $150^{\circ}$ — $250^{\circ}$  C., and has a spec. grav. of 0.800—0.810. It is the presence of the above volatile hydrocarbons which renders some brands of kerosene explosive, and consequently so dangerous.—*The Druggist*.

### HOW TO DRY PLANTS.\*

Mr. Leo. H. Grindon gives in the *Field Naturalist*, the following very simple and somewhat novel method for securing perfect herbarium specimens of plants which are usually difficult to preserve in a condition of any value even with the expenditure of much time and patient labor. Obtain a half-dozen pieces of stout mill-board, cut to about 12x18 inches. Then gather about a hundred old newspapers, and fold them neatly to about the dimensions of the mill-boards. Four or five yards of common white cotton wadding, a score of sheets of tissue paper and as many of blotting paper, all cut to the same size, complete the apparatus. One of the boards serve as a foundation; on this place a newspaper, then a piece of wadding, and upon this place the specimen intended to be dried. The cotton being soft and retentive, every portion can be laid in a proper and natural way, including the petals of flowers. A newspaper above—two or three if the specimens have thick stems—and so on, until all the specimens have been similarly deposited. If the specimens are sticky, or hairy, or of a kind that the wadding seems likely to adhere to, then, before depositing them on it, introduce a half sheet of tissue paper. A heavy weight must be placed on the top of all, sufficient to imbed the specimens in the wadding; then leave the whole to rest for twenty four hours. All the papers must then be changed, dry ones being put in their places; and if the plant seems to throw off a very considerable amount of moisture, such as will render the wadding quite damp, change the wadding also. A second, or even a third change is desirable at the end of two or three days, or a week, and when this is made, introduce the blotting-paper, pressing again till everything is perfectly flat, and the specimens are absolutely dry. The writer says that, when thus dried, every petal and leaflet retains the form it had in life, and nine specimens out of ten preserve their color

\* New Remedies.

exactly. To insure the keeping of color, it is well, if time can be spared, to change the blotting-paper many times, and to dry it thoroughly before a fire; this, however, need not be done until after the third day.

## FLAVORING EXTRACTS.

The following formulas are given by the *Druggists' Circular* :

### EXTRACT OF BITTER ALMONDS.

Oil of bitter almonds... 1 ounce  
 Alcohol.....13 ounces  
 Water ..... 6 ounces  
 Some color it with half an ounce of tincture of turmeric.

### EXTRACT OF LEMON.

Oil of lemon.....2 ounces  
 Freshly grated lemon peel.....1 ounce  
 Alcohol ..... 2 pints.

### EXTRACT OF ORANGE.

Oil of orange.....12 drachms  
 Freshly grated orange peel ..... 4 ounces  
 Alcohol ..... 2 pints

### Another.

Valencia oranges .....1 dozen  
 Alcohol..... 2 pints  
 Carefully detach the yellow portion of the rind and macerate it for ten days in the alcohol. Owing to the difficulty of procuring fresh oil of orange, this formula is generally preferred.

### EXTRACT OF ROSE.

Red rose leaves.....2 ounces  
 Oil of rose .. .....1 drachm  
 Alcohol.....2 pints.

### EXTRACT OF CORIANDER.

Powdered coriander... 4 ounces  
 Oil of coriander..... 1 drachm  
 Alcohol ..... 24 ounces  
 Water ..... 8 ounces

### EXTRACT OF CELERY.

Celery seed, bruised.....2 ounces  
 Alcohol .....1 pint

### EXTRACT OF GINGER.

Tincture of ginger.....1 pint  
 Alcohol.....from  $\frac{1}{2}$  to 1 pint  
 Some use the tincture without dilution.

### EXTRACT OF ANISE.

Anise seed.....2 ounces  
 Oil of star anise.....1 ounce  
 Alcohol ..... 2 pints

### EXTRACT OF CINNAMON.

Oil of cinnamon.....2 drachms  
 Ceylon cinnamon, bruised .....4 ounces  
 Diluted alcohol.....2 pints

### EXTRACT OF PEPPERMINT.

Ess. of peppermint, U.S.P..1 pint  
 Alcohol..... from  $\frac{1}{2}$  to 1 pint  
 Some use the essence undiluted.

### EXTRACT OF VANILLA.

Vanilla bean .....1 ounce  
 Loaf sugar .....1 ounce  
 Alcohol, 70 per cent. sufficient.

Triturate the vanilla with the sugar until a No. 20 powder is obtained. Introduce it into a two pint stone jug with ten ounces of the menstruum, cork tightly, and digest several hours at a temperature of about 50°. Allow the mixture to cool, transfer it to a percolator, pack it firmly, and pour enough alcohol on it to make the percolate measure one pint.

EXTRACT OF PINEAPPLE, ARTIFICIAL.

Oil of lemon..... 2 drachms  
Butyric ether..... 4 drachms  
Acetic ether..... 2 ounces  
Spirit of nitrous ether... 1 ounce  
Glycerine ..... 1 ounce  
Alcohol ..... 1 pint  
Water, enough to make 2 pints

EXTR. OF STRAWBERRY, ARTIFICIAL.

Nitric ether..... 1 ounce  
Acetic ether..... 5 ounces  
Formic ether..... 1 ounce  
Butyric ether ..... 5 ounces  
Salicylate of methyl..... 1 ounce  
Acetate of amyl..... 3 ounces  
Butyrate of amyl..... 2 ounces  
Glycerine ..... 2 ounces  
Alcohol ..... 100 ounces

*Another.*

Tincture of orris root  
(1-4) ..... 1 ounce  
Tincture lupulin (U.  
S. P) ..... 1 drachm

Acetic ether..... 2 ounces  
Butyric ether..... 1 drachm  
Chloroform ..... 1 drachm  
Oil of Ceylon cinnamon. 1 drop.  
Glycerine ..... 1 ounce.  
Aniline red..... 2 grains.  
Alcohol ..... 1 pint.  
Spirit of nitrous ether... 1 ounce.  
Water, enough to comp. 2 pints.

Mix, and, if necessary, filter.

EXTRACT OF RASPBERRY, ARTIFICIAL.

Tint. of orris root (1-4) 2 ounces  
Acetic ether..... 2 ounces  
Butyric ether..... 1 drachm  
Spirit of nitrous ether... 1 ounce  
Chloroform ..... 1 drachm  
Glycerine..... 1 ounce  
Alcohol ..... 1 pint  
Water, enough to make 2 pints

EXTRACT OF PEAR, ARTIFICIAL.

Acetic ether ..... 5 ounces  
Acetate of amyl..... 10 ounces  
Glycerine ..... 10 ounces  
Alcohol ..... 100 ounces

EXTRACT OF APPLE, ARTIFICIAL.

Chloroform ..... 1 ounce  
Nitric ether..... 1 ounce  
Aldehyde ..... 2 ounces  
Acetic ether..... 1 ounce  
Valeriate of amyl ... 10 ounces  
Oxalic acid ..... 2 drachms  
Glycerine ..... 2 ounces  
Alcohol ..... 100 ounces

EXTRACT OF BANANA.

Acetate of amyl..... 1 ounce  
Valerianate of ethyl... 1 drachm  
Diluted alcohol ..... 15 ounces

EXTR OF BLACKBERRY, ARTIFICIAL.

Tinct. of orris root (1-8). 1 pint  
Acetic ether ..... 30 drops  
Butyric ether ..... 60 drops

EXTRACT OF PEACH, ARTIFICIAL.

Oil of bitter almonds... 2 ounces  
Acetic ether..... 1 ounce  
Alcohol ..... 3 pints

EXTRACT OF NECTARINE.

Extract of vanilla..... 1 pint  
Extract of lemon..... 1 pint  
Extract of pineapple..... 8 ounces

EXTRACT OF CLOVE.

Powdered clove..... 4 ounces  
Diluted alcohol..... 1 pint

EXTRACT OF TONKA BEAN.

Tonka bean, coarsly  
ground ..... 4 ounces  
Diluted alcohol..... 1 pint

EXTRACT OF ALLSPICE.

Allspice, coarsely ground. 4 ounces  
Diluted alcohol..... 1 pint

EXTRACT OF WINTERGREEN.

Oil of wintergreen ..... 1 ounce  
Alcohol ..... 1 pint  
Cudbear or cochineal... 10 grains

EXTRACT OF SASSAFRAS.

Oil of sassafras..... 1 ounce  
Sassafras, in coarse pow-  
der ..... 2 ounces  
Alcohol ..... 2 pints

## THE VALUE OF ANALYTICAL RESULTS AS INDICATIVE OF THE QUALITY OF POTABLE WATER.\*

From the very important annual report presented by Dr. Buchanan as Medical Officer to the Local Government Board, London, which has been issued within the last few days, it appears that among the auxiliary scientific investigations that have been carried on under the superintendence of the Medical Department, is one that was prompted by the observation that on many occasions sanitary authorities and their advisers had shown a tendency to estimate unduly the value of chemical analysis as a means of demonstrating the wholesomeness of drinking waters. The investigation, which was conducted by Dr. Cory, whose report is printed *in extenso* in an appendix, had for its main object therefore to test the nature of the evidence derivable from chemical analysis, by adding various polluting matters, to a series of samples of known waters and submitting them, together with samples of the original waters, to experts for chemical examination. In a large number of the experiments the polluting material used consisted of the stools of enteric fever patients, this disease having manifested a special faculty of spreading by means of drinking water, and Dr. Buchanan selects these for the purposes of his report as conveniently showing some of the results obtained in the investigation. In the first place, as might have been expected, it was found that the customary methods of chemical analysis do not furnish any evidence to distinguish enteric fever pollution from any other form of excremental pollution, and, indeed, up to the present time chemistry fails to give any indication which will help in deciding whether such pollutions have had their source in a healthy or a diseased body. This remark applies equally to the permanganate test, and the "albumenoid ammonia" and the "combustion" processes, all of which were used. But Dr. Buchanan restricts his comments to the results obtained by the "process which is most popularly trusted for the recognition of animal impurity, the amount of albumenoid ammonia yielded by the water." A water was purposely polluted with enteric fever stool in the proportion of one grain to a gallon, and after the coarser particles had been allowed to deposit, the water was decanted and sent to Dr. Dupre for analysis. Dr. Dupre's analyses showed that the resulting increment of albumenoid ammonia amounted in an average of experiments to only one-thousandth part of a grain in a gallon, or fourteen thousandths of a part per million parts. Another sample of water was purposely polluted with 3.5 grains of fever stool to the gallon and sent, with a sample of the original water, to Mr. Wanklyn, who found the yield of albumenoid ammonia to have been increased in the proportion of twenty thousandths of a part

\*Pharm. Journ. & Trans.

per million parts for the entire 3.5 grains, or fifty-seven ten thousandths of a part per million parts for each grain of the contaminating stool added to the gallon of water.

Of course some scepticism may be felt as to the possible influence of so minute a contamination as one grain in a gallon of water, and Dr. Buchanan quotes, as bearing upon this point, some figures, which though evidently liable to be affected in their meaning by many possible contingencies, have a certain value in the absence of more precise data. In an outbreak of enteric fever at Caterham, in the year 1880, nearly two hundred of the earlier attacks were traced to the use, during a fortnight, of water that had been pumped from a well in which a man had been at work while suffering from enteric fever. During this particular fortnight as much as 1,861,000 gallons of water was pumped from the well, and to have infected this quantity of water to the extent of one grain per gallon would have required the addition of 19 lbs. of excremental matter to each day's supply. Of course under the conditions stated this would have been impossible, while on the other hand, it would not follow, and indeed it is not likely, that the pollution was equally diffused throughout the whole of the water. But Dr. Buchanan considers the evidence is sufficient to show that one grain in the gallon is a very large amount of polluting matter to be present in a gallon of water, and one that is not likely to have been exceeded in the particular samples of Caterham water that did actually produce disease in the individuals who drank it. Since, therefore, the chemical evidence of this dangerous proportion of pollution is expressed in terms of albumenoid ammonia as low as .014 part per million parts of water, Dr. Buchanan is of opinion that it is not permissible to accept the doctrines that have been formulated as to the significance of a particular amount of albumenoid ammonia present in an otherwise unknown water. With an evident reference to Mr. Wanklyn's classification of waters, he remarks that polluting matter potent for harm might be present in a water "yielding from 0.0 up to 0.05 parts of albuminoid ammonia per million" without removing it from the rank of waters of "extraordinary organic purity;" and he denies that there is evidence that an unknown water showing from 0.05 to 0.10 parts of albumenoid ammonia per million may be assumed to be "safe organically."

The lesson which Dr. Buchanan believes to be taught afresh and significantly by this investigation is that whilst it is desirable to be ever on the watch for any indications that chemistry may afford of the access of contaminations to drinking waters, it is at present necessary to go beyond the laboratory for evidence that any water is free from dangerous organic pollution. In the words of Dr. Buchanan, "Unless the chemist is well acquainted with the origin and liabilities of the water he is examining, he is not justifi-

fied in speaking of a water as 'safe' or 'wholesome,' if it contains any trace whatever of organic matter; hardly, indeed, even if it contain absolutely none of such matter appreciable by his very delicate methods. The chemist can, in brief, tell us of impurity and hazard, but not of purity and safety."

### EARLY LIFE OF LIEBIG.

Professor Will, of Giessen, supplied to the *Chemist & Druggist* the following information respecting the early life of the great chemist:

Liebig's father had a grocery and drug business at Darmstadt, to which Liebig's elder brother was intended to succeed, after the time-honored custom of the Germans. Justus himself, the second son, was to be a doctor, a parson, or a lawyer.

Well, Magister Storck's uncompromising condemnation of the classically backward youth, as a vile dunce, put an end to the ambitious dream of Papa Liebig, and the poor man was sadly cudgelling his brains what to do with the unhappy lad, when fate stepped in to cut the Gordian knot. The elder brother died, and Justus naturally stepped into the shoes of the defunct as to the hope of the family.

Magister Storck having graciously conceded that Justus might, *a la rigueur*, do for a druggist, Mr. Liebig apprenticed his son to Mr. Werle. But the young apprentice scorned mere drugs; he went in for chemical experiments, and used to get up in the middle of the night to indulge in gratification of his most reprehensible propensity to spend his master's chemicals and his own time, which belonged to his master by the indenture of apprenticeship, in search of organic chemistry, as if Mr. Werle, a regular Philistine of the good old type, would ever be likely to see the use of that. At all events, the worthy apothecary did fail to see it when he accidentally happened to pounce upon the eager experimenter at about one in the morning, with the laboratory fire lighted, and a nice little collection of rather expensive chemicals on the table.

Good Mr. Werle was wroth. So far from being struck with his young apprentice's surprising aptitude and wondrous skill, there is ample warrant to surmise that it was quite the other way. At least, this much would appear certain, that young Justus, evidently disgusted with his master's harsh and sordid views upon his own inquiring scientific leanings and propensities, shook the dust off his shoes, and made tracks back to Darmstadt. He dared not, however, to face his father, as Mr. Werle's indignant report of his misdeeds and flight had rather prejudiced the old man against his promising offspring.

So Justus sought a temporary refuge with an old friend of the family, who warmly espoused his cause, and soon succeeded in making it all right with Papa. Justus now took his place in his father's business; but here, instead of devoting himself to drugs, he took to the perusal of his late brother's library on natural science, with a zest and eagerness which at last attracted the old gentleman's attention.

A little careful study of his son and his son's doings soon convinced Mr. Liebig, senior, that the natural science were the natural groove for his son to run in. Once that the good old man and loving father had arrived at this conviction, he nobly made up his mind to abandon his cherished notion of having his son succeed him in the drug and grocery store, and took the requisite steps instead to send his Justus to the University of Bonn. It was only after all the preliminaries had been settled that the delighted youth was informed of the momentous change in his prospects.

*Palmarum qui meruit ferat.* It is not to Mr. Werle, then, and his imaginary scientific friends that the world is indebted for the initiatory stage of the wondrous chemist's wondrous career, but entirely and absolutely to the strong sense and loving heart of the father.

## IMPROVEMENTS IN LETTER-COPYING.

J. Lewitus, of Vienna, has made an improvement in the ordinary hektograph, which permits the writing to be rubbed off from the glue-pad as easily as chalk from a black-board.

O. Lehn, of Charlottenburg, has recently patented a process in which a specially-prepared, moistened paper is stretched in a frame, the original writing is placed upon it and left for one or two minutes; after removing it, the negative or prepared paper is spread with ink and the copies are taken.

Komaromy, of Buda-Pesth, has patented a process in which a paper, impervious to water, is painted with the following solution: Gelatin, 1 part; glycerin, 5 parts; Chinese gelatin, 0.2 part; water: 1 part. The manuscript is written with the following solution: Water, 100 parts; chrome alum, 10 parts; sulphuric acid, 5 parts; gum arabic, 10 parts. The manuscript is laid on the first paper, and the surface of the latter is thereby rendered incapable of taking up an aniline color solution with which the first surface is then flowed. Excess of color is absorbed with silk paper, and negative impressions are then taken on clean paper.—*Photographic News* from *Your. Chem. Industry*.

## NEW PROCESS FOR THE VOLUMETRIC DETERMINATION OF SULPHURIC ACID, FREE OR COMBINED.

A. Guyard prepares a normal solution of lead nitrate by dissolving an equivalent (in grams) of this body in a liter of water. The solution containing sulphuric acid, sulphates, or a mixture of both, is placed in a burette graduated into tenths of a cc. There are poured into a beaker, provided with a stirrer, 25 cc. of the normal lead solution, and it is colored a bright yellow by means of some drops of potassium iodide. Pour, then, gradually and stirring incessantly, the sulphuric solution from the burette till the liquid in the beaker is completely decolorized. The number of divisions employed correspond exactly to the weight of sulphuric acid necessary to precipitate 25 cc. of normal solution of lead nitrate. This process is advantageous chiefly for determining the total acid. If it is desired to determine both the free and the combined acid, the best process is the following: Total acid is determined as above, and the free acid is then found by means of a standard ammoniacal solution of copper. The difference is the combined acid. These processes are recommended only when there is no other free acid except the sulphuric, and when the liquids in question contain mere traces of chlorides.

The author obtains oxygen in the cold by the action of concentrated nitric acid upon potassium permanganate. The gas is given off with great regularity, and if washed in a weak alkaline solution is absolutely pure.—*Mon. Scien. in Chem. News.*

## PERMANGANATE OF POTASH IN GONORRHŒA.

Some correspondents of the *Lancet* have given their experience of this treatment. "Surgeon A. M. D." says he has thus treated hundreds of cases:—"I order an injection to be made about twenty times a day with water containing 2 drachms of Condyl's fluid to the  $\frac{1}{2}$  pint; I enjoin rest in bed, and order a spare diet; and generally administer a saline mixture, with a little hyoscyamus. With this treatment I am able to send nearly all my patients to their duty within a fortnight, and often sooner. I get very few relapses or complications. The injections are nearly painless and perfectly harmless, and may be used at any period of the disease. I have frequently succeeded in cutting short an attack of gonorrhœa by the early employment of these injections." H. Aubrey Husband, R.B. (Edinburgh) says:—"I have frequently made use of, and with marked success, injections of permanganate of potash in all the stages of gonorrhœa, except the very acute. The treatment consists in the administration of the ordinary white mixture to keep the



bowels regular, and the use of injections of the permanganate of potash ( $\frac{1}{2}$  grain to the ounce to commence with). In most cases about a fortnight suffices to arrest the discharge, although it is deemed advisable to continue the injection for a week after the discharge has stopped. I may also state that of course total abstinence from alcoholic drinks is enjoined during the treatment." Dr. W. M. Campbell, of the Liverpool Northern Hospital, says he had previously reported favorable results from the Seaman's Hospital, Greenwich, where he used 5 to 10 grains to the ounce of water. In private practice, however, he cannot use more than 2 or 3 grains to the ounce on account of the pain caused. He combines its use, in recent cases, with cubebs and copaiva pills, in old cases with tincture of iron and strychnia.—*Chemist & Druggist*.

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## Editorial.

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### ALUMNI ASSOCIATION.

We are glad to notice that an attempt is to be made to form an Alumni Association in connection with the College. It has not been decided whether the membership is to include those who hold the diploma of the College, granted by examination, or merely to consist of passed students of the teaching college. Since the time of incorporation 531 students have passed the examinations, and many are still resident in Canada, not a few, perhaps the majority, as principals. A large number have gone to the States, but would, no doubt, be glad to retain their connection with the College. In case the membership is limited to those who have attended lectures at the College, and passed its examinations, the Association could not for some time be very large, and for mutual support and strength would be decidedly less effective than if all were admitted.

It will be well if this subject is thoroughly ventilated before the framing of any constitution or by-laws is attempted, and we shall be glad if the decision is arrived at that all who hold diplomas shall be entitled to membership.

The fees of the Association need not be large, but merely nominal, as the expenses will be quite trifling.

The project originated with Mr. Gregory, of Lindsay, who was present at the last College dinner, and who urged the advisability of carrying out his suggestions, an opinion with which several other speakers coincided, and which now promises to bear fruit.

Our correspondent, whose letter is printed in another part of this issue, thinks that those who obtained their diplomas by examination should have some say in the direction of the College, and should be represented on the Council. It is true, as stated, that this body is now altogether composed of those who were enrolled by virtue of being in business prior to 1871; but there is not, nor has there been, any bar to the election of any registered pharmacist, provided the requisite number of votes could be secured. It will be quite in order for our correspondent, or any other member, to nominate as many representatives as he may choose, and leave the result to the voters.

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### THE NEW U. S. DRUG TARIFF.

Contrary to general expectation the proposed changes were worked through Congress, at the eleventh hour, and will take effect on July 1st, next. The alterations are for the most part in accord with the wishes of the majority of the trade, though, of course, to this there are some exceptions; however, on the whole, the new tariff appears to promise improvement, and is regarded with satisfaction.

The changes, generally, are on the side of a reduction of duty, but, in some cases, the rate has been raised for protective purposes; as with boracic acid and crude borax, which was formerly free, and will now have to pay a duty of from 3 to 5 cents a pound. This will shut out the very large importation of crude foreign, and put the trade altogether in the hands of those controlling the Californian supply. Quicksilver, which was formerly free, is now protected to the extent of 10 per cent. Pharmaceutical preparations of a spirituous character, as essences and extracts, were formerly admitted at 50 per cent. and now are chargeable with 50 cents per pound, which is, of course, a considerable advance.

Reductions in the rate of duty are very numerous and extensive. Among the leading items we may notice crude glycerine,

from 30 per cent to 2c. per lb.; refined, 30 per cent. to 5c. per lb.; acetic acid, 5c. to 2c. per lb.; cream tartar, 10c. to 6c.; castor oil, \$1.00 to 80c. per gal.; liquor ammoniæ, 40 to 20 per cent.; iodide potassium, 75c. to 50c. per lb.; caustic soda, 1½c. to 1c. per lb.; coal tar colors, 50c. per lb. and 35 per cent. *ad valorem*, to 35 per cent.; turpentine 30c. to 20c. per gal.; alkæloids, generally, and their salts, from an average of 33 to 25 per cent.; pharmaceutical preparations, other than those of a spirituous character, from 40 to 25 per cent.; vegetables drugs, ground or manufactured, from an average of about 25 per cent. to 10 per cent.; sulphuric ether, from \$1.00 to 50c. per lb.; tannic acid, \$2.00 to \$1.00 per lb.; alcoholic perfumery and cologne, 300 and 50 per cent. to 200 and 50 per cent.; corks, from 30 to 25 per cent.; spirit of nitre, 50c. to 30c. per lb., and chloroform, \$1.00 to 50c. per lb. The duty has also been reduced on paints and colors, dry, and in oil. Alcohol, (94 per cent. anhydrous, equal to 65 o. p. Sykes') was formerly unprovided for specially, but is now to pay a duty of \$2.00 per wine gallon.

The free list has been extended, but not very materially. Quinine and its salts, have been, of course, retained, and cinchonidia, but not its salts. Vegetable drugs generally are, as before, free. Cassia, formerly paying 10 per cent., is free, as also cloves and cinnamon. The duty of 10 per cent. has been taken off lemon and lime juices. Oils of lemon and orange, formerly paying 50c. per lb. are free, as well as the most of the essential oils used for manufacturing purposes. All acids unenumerated are free, as also barytes, sulphur, and crude minerals generally.

Looking at the new tariff from a chemical and pharmaceutical manufacturer's point of view, and comparing it with that in force in Canada, there is no doubt but that the former is much more favorable to the development of such industries. Manufactured goods are better protected while crude drugs are generally free. The retail druggist is also in a better position, as his drugs cost him less and sell for more. We hope the example set by our neighbors may influence the authorities at Ottawa, but from present appearances Sir Leonard Tilley has not given that attention to the requirements of the drug trade which his pharmaceutical antecedents would lead us to expect.

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THOSE interested in forming an Alumni Association are requested to meet at the rooms of the College on Monday May 14th, at eight o'clock.

## SOLIDS BY WEIGHT, LIQUIDS BY MEASURE.

The above explanation, to be found at the head of every page of Squire's Companion to the Pharmacopœia, has no doubt led many pharmacists to the belief that such is the rule of the British Pharmacopœia, and that all the solids and liquids which enter into the preparations named by that authority should be estimated respectively by weight and measure. We have had more than one argument on this subject, and feel assured that for every individual who holds a contrary view, there are a hundred who think the rule correct.

The matter has been put at rest by Professor Attfield, in a communication to the *Pharmaceutical Journal & Transactions*, in which he alludes to a recent paper in which the writer inclined to the view alluded to, and, in the formula for acetic ether interpreted "parts" to mean respectively weights and measures in the case of solids or liquids. Professor Attfield reverses the ordinary acceptance of Squire's explanation, and says that it was deemed necessary to put it at the head of every page of the "Companion," as, otherwise, people would follow common usage and take parts to mean parts by weight.

Mr. Abraham, who writes on the same subject, expresses a similar opinion, and says that the B. P., on almost every page, refutes the supposition that all solids are to be taken by weight and liquids by measure, as fluid measures are specially so called when mentioned, and Squire's explanation at the head of every page makes it clear that the formulæ in his book are expressed in quantities other than officially given, and requiring to be specially noted.

This may be accepted as definitely settling a point on which comparatively few held a correct opinion.

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REDUCTION OF CASH DISCOUNT.

Negotiations have for some time been going on among the members of the wholesale trade with a view to arriving at some definite and unanimous conclusion respecting a reduction of the discount from five to three per cent., and we understand that it has been decided to make such change, to come into effect on all purchases after May 1st.

## Editorial Summary.

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A SPECIMEN of digitalis ten feet high was recently donated to the Museum of the Royal Botanical Society.

THE new remedy, Jamaica dogwood, appears to have nearly run its race. As a substitute for opium it has not been a success.

ARNICA flowers may be ground for use in making the tincture by drying and rubbing through a sieve. This plan is suggested by a correspondent of the *Druggists' Circular*.

INHALATIONS of steam containing oil of eucalyptus, generated from the leaves, are highly recommended in diphtheria by a writer in the English *Lancet*. Thirty-seven cases of recovery are reported.

AN International Pharmaceutical Exhibition is to be held at Vienna, Austria, next August. Medicinal preparations of a proprietary character, or those which are not made on scientific principles, or are of a secret composition, are to be excluded.

TINCTURE of arnica occasionally produces irritation of surfaces to which it is applied. It is asserted that this is due to the use of unfiltered tincture, containing minute hooks, derived from the flowers, which fasten in the skin and give rise to inflammation.

A NOVEL mode of making one's own gas has been devised in Germany, and the plan is said to have been put into operation for lighting a hotel at Breslau. Human fæces, derived from the hotel closets, are subjected to destructive distillation, in a gas retort, similar products being obtained as in the distillation of coal.

A FACT not generally known was communicated to us by Mr. E. J. Palmer, of this city. He says that in the earlier days of the province, farmers used to make their own writing ink, by boiling together, in water, the bark of the soft maple and ordinary copperas. A fine purple black was produced, and, as evidenced by writing done many years ago, of considerable permanency.

AN item, whether true or otherwise, is going the rounds of the

pharmaceutical press, and is ascribed to the *Madras Mail*. It is stated that several recent importations of cloves to London from Zanzibar, consisted wholly or in part of a manufactured article made from wood, stained, and perfumed with oil of cloves. The spurious cloves were traced to the country from which wooden nutmegs originated. The story is a very unlikely one.

From the report of the Director of the Government Gardens and Plantations in Jamaica, we learn that the cultivation of cinchona on the island is likely to become general and profitable. Applications for seeds and plants have been very numerous, and already the government plantations have begun to yield a crop. A shipment of 25,512 pounds, principally thinnings and prunings, was made during the year, and the bark brought fair and sometimes high prices. One sample was sold for eight shillings a pound.

THE freshness of essential oils is tested by A. Belobroubek (*Liqueur Fabrikant*), by mixing in a test tube a drop of the oil to be examined with a drop of petroleum benzine (boiling point 104° F.) If the mixture becomes turbid the oil has been oxidized. Two or three more drops of benzine may be added, when the resinified portion will frequently separate on the sides of the tube. This test is based on the assumption that hydrocarbons will mix together, which is said not to be the case if they are oxidized. Alcohol interferes with the test.

H. TRIMBLE, (*Am. Jour. Pharm.*), says that with the experience he has had, he is more and more opposed to judging the quality of milk by the test of specific gravity. It is usually very close to 1.030, but very frequently a sample rich in cream will have a gravity as low as 1.028. In a paper read in England, before the Society of Public Analysts, Dr. Veith gave the average specific gravity of 12,349 samples as 1.0319; containing 3.52 per cent. of fat, and 9.51 solids, not fat. Of 900 samples examined at Paris the gravity was 1.033, with 4 per cent. of fat, and 9 per cent. solids not fat.

THE best process for purifying petroleum benzine for pharmaceutical use, without distillation, was made the subject of a query proposed by the California Pharmaceutical Association, and

answered by F. Grazier, who found that a part of the disagreeable odor was removed by percolation through charcoal. By treatment with solution of potassium bichromate and sulphuric acid, and afterwards with solution of potash, a fairly smelling product was also obtained. By agitation with a little cologne water, allowing the mixture to stand several weeks, and then decanting, the odor may be disguised.

A NEW mode of administering quinine now becoming popular in the United States, is by the aid of syrup of yerba santa. This method is alluded to by R. Rother (*Am. Jour. Pharm.*) who says that yerba santa leaves contain an acid resin which may be called eriodictyonic acid, that forms with quinine a nearly insoluble and tasteless salt resembling tannate of quinia. The compound is soluble in ammonia, and decomposed by the common acids into the free acid resin and soluble quinine salt. Syrup of yerba santa may be made of one ounce of the drug, or the fluid extract, to the wine pint—when of half this strength it also will answer.

*Convallaria majalis*, lily of the valley, which was lately extolled by Russian journals as a substitute for digitalis, does not appear to stand the test of experiment. Dr. Tye, of Chatham, recently informed us that his trials of the drug were attended with negative results. This is in accordance with reports given in Continental and American journals. A German physician experimented with the new remedy in twenty-one cases, but in seventeen of these without showing any effect on the action of the heart. A diuretic action was noted in some of the cases, and, in two instances, cardiac symptoms appeared to be alleviated.

THE annoyance and uncertainty experienced in deciphering labels on medicine bottles, brought to be refilled, has been experienced by all dispensers. S. A. McDonnell, in the *Pharmaceutical Record*, proposes to obviate this by coating all labels on bottles containing acids, oils, glycerine, etc., liable to soil or destroy the label, with a solution of white shellac in ether, to which a little carbonate of lead is added, and the solution filtered. The varnish is applied by means of a camel's hair brush, and dries almost instantly. Labels so coated are said when brought back from the patient to be clean and legible, and will stand washing and scrub-

bing. Mr. McDonnell calls his solution "liquor laccæ albæ, or the label preserver."

WE are in receipt of a very official looking report of the Pharmacy Board of Victorja, Australia, which our readers will remember is constituted directly under the Government. There have been several examinations held during the year, fourteen candidates having entered, of whom 10 passed. There are now 669 chemists and 125 apprentices on the Register. The latter have to pass a Preliminary Examination, and, having served the requisite time, must go up for the "Modified" examination, when, if successful, they may be registered as chemists. Candidates for the "Major" examination must have served not less than four years' apprenticeship, and have attended at least one course of lectures, besides passing several intermediate examinations in special branches. A School of Pharmacy is in successful operation, and every effort is being made to bring pharmacy in Victoria up to a high standard.

FROM a translation of an article from the *Chemiker Zeitung* in the St. Louis *Druggist*, we learn that attempts are being made in Germany to utilize the whey from cheese factories as an article of diet. The small dairymen of Norway have long been in the habit of boiling down the whey in open pans, but the consumption of fuel is large, and the product liable to be injured by heat. A company in Berlin have recently put in a vacuum apparatus, and commenced the manufacture of whey-rye bread, two kinds of wheat bread, one a fine article of rolls, with the addition of milk, butter, eggs, etc.; the other plain bread in round rolls, for daily use, without the same expensive ingredients. The public take very kindly to the new bread, and it is likely to become popular. It is thought that the previously useless whey can, when evaporated, be thus utilized in bakeries, and also by cooks. The product is rich in milk sugar, albumen, a considerable quantity of salts, and also portions of casein, and butter fat, which have escaped the cheese process.

SOME of the medical journals on the other side have been investigating the case of the "Rev." J. T. Inman, who, for many years, has been carrying on a traffic in a remedy for secret diseases,



and who is better known as "the retired clergyman whose sands of life have nearly run out." For many years this person, whose name is said to be Allison, had a box in a sub-post office in the American Bible Society's buildings in New York, and the good people of that institution were subjected to much annoyance from their very obscure connection with the reverend philanthropist. They, however, about four years ago, succeeded in having the post office removed, and in this way got rid of the trouble. The Bible Society's general agent says that, at that time, Allison was living in high style, and reported to have gained over \$200,000 in the infamous business in which he was engaged. We have before published the formula which the retired clergyman prescribed to those who communicated with him, and which of course called for ingredients that none save he could furnish. The extracts of Corassa, Apimis, Carsodoc herballis, and Alkermes latifolia, are too much for most druggists, but for the trifling sum of \$3.50, about two and a half ounces of the precious drugs could be procured from Mr. Inman, who no doubt furnished the medicine at cost. Dr. A. A. Lyons, analytical chemist of Detroit, reports in the *Therapeutical Gazette* that the ingredients are as follows: Powdered gentian and licorice, of each 15 parts; sugar, 50 parts; bicarbonate of sodium, 17½ parts; and cochineal 2½ parts. The average cost is about 2 cents a box.

THOSE interested in the subject of acetic ether will find in the *Pharm. Jour. & Trans.* for March 24th, a very thorough paper, by Dr. Inglis Clark, in which is given the results of a very large number of experiments, made with a view of determining the best proportions for the ingredients, and ascertaining the specific gravity of the pure product. The experiments were suggested by the author observing the fact that when the acetic ether of good manufacturers was treated with dry carbonate of potassium, a lower layer of solution was produced, showing the ether to contain water. As to the proportions and process the author arrives at the following conclusions: (1) that the sodium acetate should be dry, (2) that a great excess or deficiency of sulphuric acid are equally to be avoided, (3) that the advantage of absolute over ordinary alcohol is very small, and not worth the expense, (4) that a slight excess of sulphuric acid is advantageous, (5) that in no case was the product more than 91.2 of the theoretical yield. Ten ounces of recti-

fied spirit, ten fluid ounces of sulphuric acid, and twelve and three-eighths ounces of dried sodium acetate, gave the best results. The spirit and acid were mixed and allowed to cool to  $60^{\circ}$ , the sodium acetate added, and mixed thoroughly, and the mixture distilled until the product measured about 14 fluid ounces, which was digested for three days with two ounces of freshly dried potassium carbonate, and the product rectified from a water-bath. Dr. Clark finds fault with the solubility in water as given by different authorities. The B. P. says 1 in 12; the U. S. P., 1883, 1 in 17; while the author makes it 1 in 9 by volume. The specific gravity is also very variously stated at from .812 to .932 (B. P., .900; U. S. P., 1883, .889 to .897). The experiments made showed the specific gravity of the ether containing 99.7 per cent. to be .9012. Great difficulty was experienced in abstracting the last traces of water.

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## Correspondence.

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### ALUMNI ASSOCIATION.

*To Editor Pharmaceutical Journal.*

SIR,—As our Alumni are now quite numerous, it is fully time that we united together for mutual interest and support, and took steps for the continuance of the friendships contracted during our student days. Alumni Associations are connected with most of American Pharmaceutical Colleges, and in England they have a Students' Association, so why not here? I trust, Mr. Editor, that you will give this your consideration, and give us the benefit of your assistance in directing the attention of students to this subject, and giving this suggestion publicly in the journal.

Would it not also be well if those holding diplomas *by examination* should have some representation on the Council? A very large percentage of our Ontario druggists hold such evidence of qualification, but I notice that all the present members of the Council were registered as being in business before the passing of the Act, now over twelve years ago. Are we not justly entitled to representation, and would not some infusion of young blood be beneficial? Yours obediently,

ONE WHO HAS WORKED HARD FOR HIS DIPLOMA.

## BOOK NOTICES.

*Dispensatory of the United States of America.*—By Dr. Geo. B. Wood and Dr. Franklin Bache. Fifteenth edition, re-arranged, thoroughly revised, and largely re-written, with illustrations. By H. C. Wood, M.D., Joseph P. Remington, Ph. G., and Samuel P. Sadtler, Ph. D., F. C. S. Philadelphia, J. B. Lippincott & Co., 1883. Octavo, pp. 1928. Price, \$8.00.

The preface to the first U. S. Dispensatory, written by Dr. Wood, senior, bears date January 1833, now over half a century ago, and the fourteen editions that have intervened have been the revised versions of that bible to which the pharmaceutical course of two or three generations of American druggists has been referred. Until the advent of the British Pharmacopœia, in 1864, it was also the principal Canadian authority, and even now we think it would be impossible to find a pharmacy in this country without a copy of this invaluable work.

The past decade has been a trying one to revisers of pharmaceutical methods; for never was there a period of more rapid development, or striking progress. The recent publication of the U.S. Pharmacopœia, which we had the pleasure of noticing a few months ago, made the task of revision a much more onerous one, but in the instance of the work under review it has been ably met and accomplished. The original editors, full of years and honors, having passed from their sphere of labor, have left their mantles on worthy shoulders. The senior editor, Dr. G. B. Wood, has had the advantage of experience gained during the revision of three former editions, under the direction of his venerable predecessor, and his co-laborers are men of the times, well known and capable in their respective branches.

The plan of the work has been remodelled so as to be in conformity with the new pharmacopœia. The arrangement of subjects is, therefore, alphabetical, the division into "Materia Medica and Preparations," having been dropped. The British pharmacopœia, as in the previous edition, has been embodied in this, so that the Dispensatory is almost equally useful in both countries.

A great portion of the old matter relating to therapeutics has been re-written, and brought up to the times, while the chemistry has also been thoroughly revised, the old system of notation and nomenclature being entirely abolished.

A very important feature, which will, no doubt, be largely appreciated by a certain class of American pharmacists, is the conversion of parts by weight, and the weights and measures of the metrical system,—which it will be remembered are given in the new U. S. P.—into corresponding denominations of the wine and avoirdupois systems. This will prove of great use at the present transitory time. The pharmacy of the book has also been necessarily changed, almost throughout, and brought into conformity with the advanced condition of the science.

Another improvement, which as such will, however, be possibly severely criticised, is the indication of the pronounciation of official names. In this country, where a knowledge of Latin is not deemed an essential part of a pharmacist's education, this will be much appreciated by apprentices and others, and save many a humiliating blunder.

Part II., formerly part III., containing drugs and medicines not official in either the U. S. or British Pharmacopœias, has been much enlarged, and made to embrace new remedies, about which druggists often seek information. The notices are concise and comprehensive, and the frequent references to authorities render this portion extremely useful.

We have thus briefly indicated the principal features in the new Dispensatory. Time and experience will, of course, be required to judge of the correctness of the statements and formulas given in so large a work. However, from what we have seen of the book we must speak in the highest terms of the result of the painstaking and conscientious labors of the editors. As a pharmacopœial commentary it has certainly no equal, and even though the pharmacist has on his shelves a copy of each of the fourteen preceding editions he cannot afford to be without this the latest and best.

*A Manual of Chemical Analysis* as applied to the Examination of Medicinal Chemicals. A guide for the Determination of their Identity and Quality, and for the Detection of Impurities and Adulterations; for the use of Pharmacists, etc. Third Edition; thoroughly revised and enlarged. By FREDERICK HOFFMAN, Am. Ph. D.; and Frederick B. Power, Ph. D. Philadelphia: Henry C. Lea's Son & Co. 1883. Octavo, pp. 624.

The previous editions of the book are well known to druggists,

but as the second is now over ten years old, a thorough revision was a necessity. The authors have re-written a great part of the work and much enlarged it, thus improving the character of the book generally, besides adding largely to the illustrations.

The work refers especially to the chemicals official in the Pharmacopœia of the United States, and of course to the edition of 1883, but such other chemical substances as commonly occur in commerce, or are used in medicine are also embraced, and tests given for their identity, quality and purity.

To those unacquainted with Professor Hoffman's book we would say that the first portion, comprising some seventy pages, is taken up with a description of chemical operations, reagents, and a course of qualitative analysis for acids and bases. About fifty pages are devoted to volumetric analysis, in which the principles and the mode of operation are very clearly explained. The remainder of the work, embracing about five hundred pages, is taken up by a detailed enumeration of medicinal chemicals, and their preparations, their physical and chemical characteristics, with directions for the examination of their quality and purity, and for their quantitative estimation. The tests are very clearly described, and the apparatus required is simple, consisting for the most part of test tubes and such articles as are generally to be found in drug stores. Special attention is given to the subject of the separation and recognition of the principal alkaloids and allied principles.

In all respects this is a druggists' book, specially adapted to the requirements of the back shop or laboratory, and no doubt especially designed for that purpose. Many of the methods and tests given are new, and their adoption will frequently save the time of the operator, and give more certain and satisfactory results,

The typography, paper, and illustrations are first-rate, as might be expected from the eminent house from which the work emanates, and, taken all in all, we heartily commend the book to our readers.

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SHOW-CARD INK.—

Pure asphaltum .....	2 ounces.
Venice turpentine .....	1 ounce.
Lampblack .....	$\frac{1}{2}$ ounce.
Spirit of turpentine.....	$\frac{1}{2}$ pint.

—*New Remedies.*

## Practical Formulæ.

**SOZODONT.**—Formulæ for imitation of Sozodont have been several times copied into these pages. We do not know how nearly they approach accuracy. Wittstien says, "Each vial contains nearly 2 oz. of a red liquid consisting of a filtered solution of white Castile soap  $\frac{1}{2}$  drach, in strong alcohol, 1 oz. ; water,  $\frac{3}{4}$  oz. ; glycerine,  $\frac{1}{4}$  oz.; coloured with cochineal and flavoured with oil of peppermint, cloves, and winter green." The powder which accompanies each bottle consists of a mixture of precipitated chalk, powdered orris, and magnesia carbonate. Floriline, we believe, is based on quillaia. The following is a formula for a quillaia tooth-wash which perhaps more or less resembles it. Macerate 4 oz. of crushed soap-bark in a mixture of 3 oz. of glycerine with 2 pints of rectified spirits for several days. Filter through magnesia which has been previously triturated with 20 drops of each oil of winter green and oil of peppermint.—*Chemist and Druggist*.

### ELATINA (FOR COUGHS).—

	Parts.
Green pine cones.....	600
Olibanum .....	8
Balsam of Tolu.....	5
Rosin .....	4
Juniper berries .....	60

The ingredients are covered with a sufficient quantity of water, allowed to stand overnight, and next morning 1,200 parts of liquid are distilled off over a moderate fire. The distillate is filtered and bottled. The dose is stated to be half a wineglassfull two or three times a day.—*Pharm Zeit*.

**TEA AND COFFEE EXTRACTS.**—An aqueous extract of tea, coffee, cocoa, or ginger is made by boiling it for fifteen minutes in water containing sulphate of lime in solution, then cooling to 60°, when a solution of tannic acid, previously boiled till nearly devoid of smell, is added. A precipitate occurs, and is filtered out. It is then left to stand for a day, and an aqueous gelatine solution of three or four grains to the ounce of water is added in quantity nearly sufficient to precipitate all the tannic acid. The liquor, still containing a little tannic acid, is strained and bottled.—*Scient. Amer*.

HAIR-OIL PERFUMES.—The following formulæ are given by M. Ad. Vomaska Leitmeritz, of Prague, in the *Pharm. Zeitung*:—

1. Ol. jasmin, 40 grammes; ol. caryoph., 1 gramme; ol. bergamot, 225 grammes; ol. citri cort., 10 gtt.; ol. rosmarini, 6 gtt.; ol. neroli, 25 gtt.; ol. thymi, 1 gtt.

2. Ol. bergamot, 100 grammes; ol. citri cort., 30 grammes; ol. petitgrain, 10 grammes; ol. rosmarini, lavand., citronellæ, of each 1 gramme; musk  $\frac{1}{2}$  gramme.

3. Ol. bergamot, 32; ol. citri cort., 1; ol. rosarum, 4; musk,  $\frac{1}{2}$ .

Another correspondent recommends the following:—To 1 kilo of oil add oils of geranium, verbena, thyme, of each 2 grammes, and musk  $\frac{1}{2}$  gramme, previously rubbed with 2 grammes of white sugar. Digest and filter.—*Chemist and Druggist*.

# LIQUOR PANCREATICUS.—

Pancreas.....	6
Hydrochloric acid.....	4 fluidounces.
Glycerine .....	q.s.
Water .....	12 pints.
Oil of sweet orange .....	2½ fluidrachms.

Macerate the cut up pancreas for three days in the mixture of water and acid, with 2½ pints of glycerine added; strain and add the oil of orange, and make up to 30 pints with glycerine. Filter. One fluidrachm emulsifies 4 fluidrachms of cod liver oil. Or without acid:

Pancreatine.....	600 grains.
Glycerine.....	6 fluidounces.
Orange flower water .....	10 fluidounces.

Filter.

—*The Druggist*.

Phenol Sodique, is used by dentists for destroying the sensibility of an aching tooth, and also as a mouth lotion. It is a dark-coloured liquid. Hager says that it is made by combining 60 parts of dry caustic soda with 100 parts of carbolic acid, or by mixing and evaporating in a water bath 100 parts of caustic soda lye of sp. gr. 1.333 with 70 parts of carbolic acid. Probably the liquor natri carbolici of the first German pharmacopœia is nearer the description given—

	Parts
Acid, carbolic, pur .....	10
Liquor natri caust.....	2
Aquæ destil .....	8

Mix with a gentle heat. Used like carbolic acid, externally and

internally. The mixture soon becomes brown, and absorbs carbonic acid, so should be prepared as required.—*Chemist & Druggist*.

**FURNITURE CREAM.**—The following recipe, if carefully prepared, will give a furniture cream equal to any in the market:—

Take of	Oz.
White soap.....	2½
Spirit of turpentine.....	80
White wax.....	20
Water .....	40
Subcarbonate of potash.....	1

Melt the soap in water by the aid of a gentle heat; add the salt of tartar and white wax, and apply more heat. When melted add the turpentine slowly and with constant stirring.—*Chemist & Druggist*.

**ALLCOCK'S POROUS PLASTER.**—The formula is, under good authority, said to be the following:

Virgin india rubber .....	1 pound.
Pitch .....	½ "
Gum thus .....	½ "
Capsicum .....	30 grains.

By leaving out the capsicum, and substituting appropriate remedial agents, you may obtain a corn plaster adhesive enough, for if the above emplastical mass has a fault, it is to stick too well and too long. Should the plaster basis, however, be too irritating to suit your purpose, we would suggest a mixture of lead plaster, india rubber, and beeswax, with little or no resin. By varying the proportions of the ingredients you can make a mass as hard as is reasonably necessary, and adhesive enough to meet all requirements.—*Druggists' Circular*.

**CEMENTS FOR LEATHER BELTING.**—The following is said to be excellent; Soak equal parts of common glue and isinglass, for ten hours, in just water enough to cover them. Bring the whole to nearly the boiling point, and add pure tannin until the whole mixture becomes ropy, or appears like the white of eggs. Buff off the surfaces to be joined, apply the cement, and clamp firmly. The belt must not be used before the cement is thoroughly dry. Another method, less reliable but more expeditious, is to use a mixture of equal parts pitch and gutta-percha applied hot, or dissolved in bisulphide of carbon.



FLOUR PASTE.—

Flour.....	4 ounces.
Water .....	1 pint.
Nitric acid .....	40 minims.
Oil of cloves.....	5 “
Carbolic acid .....	5 “

Thoroughly mix the flour and water, strain through a sieve, add the Nitric Acid, apply heat until thoroughly cooked, and when nearly cold add the Oil of Cloves and Carbolic Acid.—*Proc. Cal. Phar. Society.*

TOOTH WASH.—

Fine ground White Oak Bark.....	2½ ounces.
“ “ Rhatany root.....	½ ounce.
“ “ Sassafras bark.....	1 drachm.
“ “ Cinchona (red).....	3 drachms.
“ “ Cardamon seeds .....	30 grains.
“ “ Ceylon cinnamon.....	20 “
“ “ Cloves .....	30 “
Oil of wintergreen .....	1 fl. drm.
“ “ Anis .....	½ “
Alcohol .....	20 fl. ozs.
Water .....	12 “

Macerate 10 days, filter. Finished product, 1¼ pints.—*Proc. Cal. Phar. Society.*

CATTLE CONDIMENT.—“In the preparation of cattle food the main object is to make the food palatable. The animal is more contented, it eats with a contented relish, and a greater thriftiness is the result. I am not a believer in the condimental value of these foods, for I believe that in our grasses we have all the condimental elements required. But should my correspondent desire to make his own cattle food, here is a common formula :—Locust bean 6 cwts.; Indian corn, 9 cwts.; best linseed cake, 3 cwts.; powdered turmeric, 40 lbs.; sulphur, 40 lbs.; saltpetre, 20 lbs.; liquorice, 27 lbs.; ginger, 3 lbs.; ainseed, 4 lbs.; coriander, 10 lbs.; gentian, 10 lbs.; cream of tartar, 2 lbs.; carbonate of soda, 6 lbs.; levigated antimony, 6 lbs.; common salt, 30 lbs.; Peruvian bark, 14 lbs.; fenugreek, 22 lbs. This will make as good a cattle spice or food as any that can be bought. But my own opinion is that food can be made very palatable by simply mixing with it a small proportion of locust bean meal and a little salt ; and locust bean meal can be purchased at about £8 10s. a ton just now, so that it is not expensive.”—*Correspondent of the Morning Post.*

HAIR DYE WITH TWO PREPARATIONS.—The following is the time-honored article used by tonsorial artists and others. If not new it is very good, so far as dyes go, besides having the advantage of an immediate effect :

*Solution No. 1.—Mordant.*

Gallic acid.....	4 drachms.
Water.....	18 ounces.
Alcohol .....	6 “

*Solution No. 2.—The Dye.*

Nitrate of silver.....	1 ounce.
Ammonia, sufficient, or about .....	2 ounces.
Water.....	8 “

The deepest *black* is obtained when only enough ammonia is employed in the second solution to redissolve the precipitate formed at first when the alkali is added to the silver solution. By increasing the quantity of ammonia, various shades of *brown* are produced.

WASHING LIQUOR.—

*Ammonia Washing Liquor* made and sold in Nottingham forty years ago.

Water .....	6 galls.
White soap.....	1 lb.
Pearl ash.....	2 oz.

Dissolved by boiling, and when cooled to the temperature of new milk add liq. ammoniæ sp. gr. 960 (no quantity mentioned). This was sold retail at 4d. per pound.

*Washing Liquor* sold in Hull.

Yellow soap .....	3 oz.
Water .....	2 galls.
Liq. ammon. fort.....	8 oz.

Boil the water with the soap until dissolved, and when cool add the ammonia.

*Yorkshire Wash*, sold in Norfolk.

Ammonia strong solution .....	3 oz.
Common water .....	1 pint.

*Liqueur Bernhard*, a liquor for removing spots and stains, is composed of

Oxgall .....	10 parts.
Potash .....	5 “
Water .....	100 “

With a little spirit.—*Druggist and Chemist*,

# Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor (53 Front Street, East) not later than the 25th of each month.

## SPECIFIC ARTICLES FOR SALE OR EXCHANGE.

J. C. Lander, Yonge Street, Toronto, has for sale the counter, drawers, show bottles and jars from his lower store, which he will dispose of cheap.

PUFFER'S SODA WATER APPARATUS, one draught tube, eight syrups, one Matthew's upright generator, 1 12-gallon copper cylinder; 1 seven-glass tumbler washer. Address, S. Chapman, Druggist, Hamilton.

JOURNALS.—T. A. Hewitt, Thornhill, wants the following numbers of the Canadian Pharmaceutical Journal : Vol. VIII., No. 1; Vol. IX., No. 5; Vol. XII., Nos. 1, 8, 12; Vol. XIII., Nos. 1, 4; Vol. XIV., No. 1; Vol. XV., No. 12; Vol. XVI., Nos. 1, 3, 4 and 5, and has the following numbers to spare in exchange:

Vol. V., Nos. 4, 6, 7, 10, 11.

Vol. VI., Nos. 7, 9, 10, 11.

Vol. VII., Nos. 1, 3, 4, 5, 6, 7, 9, 12.

Vol. VIII., Nos. 6, 7, 9, 10, 11, 12.

Vol. IX., Nos. 1, 2, 3, 4, 6, 9, 11, 12.

Vol. X., Nos. 1, 5, 7, 10, 11.

Vol. XI., Nos. 1, 3, 4, 5, 6, 9, 10, 11.

Vol. XII., Nos. 7, 9.

## ARTICLES FOR SALE.

1  $\frac{1}{2}$  doz.  $\frac{1}{2}$  lb. W. M. Stoppered Bottles.

1  $\frac{1}{2}$  doz. 1 lb. " " "

5  $\frac{1}{2}$  doz. 2 lb. " " "

1  $\frac{1}{2}$  doz. 4 lb. " " "

1 doz.  $\frac{1}{2}$  lb. N. M. Stoppered Bottles.

1  $\frac{1}{2}$  doz. 1 lb. " " "

3  $\frac{1}{2}$  doz. 2 lb. " " "

1  $\frac{1}{2}$  doz. 4 lb. " " "

1  $\frac{1}{2}$  doz. 2 lb. Blue Jars, with covers.

1 Pill Machine.

1 8 ft. Counter case, long square, plated, with mirrors. T. Ruston, Georgetown.

## SITUATIONS VACANT.

G. G. Eakins, Guelph, wants a clerk of 2 years experience. Apply at once.

## SITUATIONS WANTED.

ASSISTANT.—James M. Hargreaves, Paisley; has had four years' experience, good dispenser, first class testimonials.

ASSISTANT OR MANAGER.—A druggist of practical experience, middle age, and member of the O. C. P., wants to get a good situation of trust and responsibility in a wholesale or retail house. Can make himself generally useful; industrious, careful and correct in keeping everything in good order; can keep accounts; can furnish a large number of the best references, extending over many years, as to good conduct and character. Address Druggist, 294 King William Street; or Garland & Rutherford, Hamilton.

ASSISTANT.—A member O. C. P., good sound Telegraph operator; can speak both German and English, 4 years' experience. Address, A. X. E., Office Pharmaceutical Journal, Toronto.

ASSISTANT.—W. C. Keys, 51  $\frac{1}{2}$  Vanauley Street, Toronto, three years' experience.

ASSISTANT.—Geo. Brockie, 92 Adelaide Street West, Toronto. Experience in wholesale and retail for past 20 years.

ASSISTANT.—S. Howarth, 158 Adelaide Street West, Toronto; has had some laboratory experience.

ASSISTANT.—H. R. Hollaway, 252 King Street East; has had experience in large perfumery house in London, England.

ASSISTANT.—W. W. Booth, 215 Wellesley Street, Toronto. Graduate O.C.P. 5  $\frac{1}{2}$  years' experience.

## BUSINESS NOTES.

We regret to say that Messrs. C. W. Pearce & Co. were sufferers by the recent large fire at Oakville. Their loss on stock is \$3,000, on which there is an insurance of \$2,000; on shop fixtures the loss is \$750, insurance \$500.

H. S. Webber, late manager of the business of Townsend & Co., Winnipeg, is commencing business at Orangeville.

J. E. Neville, late of Queen Street, Toronto, has started a business at Berlin. Joseph Taylor, of Harriston, is about opening a store at Portage La Prairie, Man.

W. Brydon, late of the King Street Pharmacy, Toronto, has commenced a business at Rat Portage, Man.

Sidney Fraleigh has built and now occupies a new store at St. Marys.

W. H. Gilpin, of the same place, has also moved into new quarters. Both this and Mr. Fraleigh's store are said to be among the finest and best equipped in the province.

N. A. Bosworth, of Stratford, has gone on a trip to California; object health.

G. G. Eakins, of Campellford, has bought the business of W. Rolls, Guelph.

W. R. Howell, of Beeton, has sold out to Dr. Whiteside.

## BUSINESS NOTES—Continued.

Hazen Morse, manufacturer of malto-pepsin, Toronto, is removing to the vicinity of Black Rock, where he has erected a factory.

R. Brydon, of Newbury, writes to say that our report in last month's journal was not correct. It appears that he got an extension of time from his creditors. Not being able to meet his engagements he called a meeting of his creditors. A Hamilton firm has since obtained judgment, and issued an execution. The business has been sold by the Sheriff, but the proceeds did not realize the amount of this claim, and the other creditors do not receive anything.

Herod & Co., Guelph, advertise their stock to be sold by auction. The business has for some time been in the hands of a Receiver on account of a disagreement of partners.

T. Copeland, Hamilton, who is thinking of going to the North-west, advertises his business for sale.

C. Lugsden, Port Colborne, has been refitting his store.

**SPECIAL REGISTRAR'S NOTICE.**—Members remitting the annual renewal fee, must send bankable funds, American bills will not be accepted, in every case they will be returned.

GEO. HODGETTS, Registrar.

## MARKET REPORT.

Trade during last month has been comparatively good, but bad roads still operate against it. The snow has not yet left the country, and it will be fully two weeks before navigation opens on the upper lakes.

*Opium*, and its salts still continue to be without interest.

*Quinine*.—The market for Howard's and German is apparently weakening, and there may be possibly lower prices shortly.

*Miscellaneous Drugs*.—Norwegian cod-liver oil still continues to advance, and large lots have been sold in London at 14s., and \$90 per bbl. of 25 gallons is being asked in New York. The prices of Paris green and hellebore will rule about the same as last year. Insect powder is a shade easier, acid tartaric, and cream of tartar are higher, as also sal Rochelle.

*Paints and Oils*.—Raw and boiled oils still sell low and white lead is steady at former quotations. Whiting is still high, but will probably be lower on the opening of navigation.

DRUGS, MEDICINES, &c.		\$ c.	\$ c.	DRUGS, MEDICINES, &c.—Contd.		\$ c.	\$ c.
Acid, Acetic, fort .....	per lb	0 12	@ 0 14	Gum Arabic Sorts, powdered ..		0 20	0 30
Benzoic, pure .....		0 15	0 30	Assafetida .....		0 20	0 25
Carbolic, cryst., med .....	com	1 25	1 50	Benzoin .....		0 50	0 80
.....		0 80	0 50	Catechu .....		0 12	0 15
Citric .....		0 80	1 00	..... powdered .....		0 20	0 25
Gallic .....		1 60	1 80	Gamboge .....		1 00	1 25
Muriatic .....		0 03½	0 06	Guaiacum .....		0 65	1 00
Nitric .....		0 10	0 15	Myrrh .....		0 45	0 85
Oxalic .....		0 18	0 19	Sang Dragon .....		0 15	0 45
Salicylic .....		2 40	2 60	Scammony, powdered .....		4 90	5 50
Sulphuric .....		0 02½	0 05	..... Virg. ....		12 50	14 00
Tannic .....		1 25	1 40	Shellac, Orange .....		0 35	0 45
Tartaric, pulv .....		0 65	0 75	Shellac, liver .....		0 33	0 38
Ammon, carb .....		0 21	0 24	Storax .....		0 05	0 50
Bromide .....		0 75	1 00	Tragacanth, flake .....		0 65	1 35
Iodide .....		4 60	5 00	..... common .....		0 25	0 65
Liquor, 88° .....		0 2	0 22	Galls .....		0 20	0 21
Muriate .....		0 14	0 15	Gelatine, Cox's 6d .....		1 20	1 25
Æther, Nitrous .....		0 27	0 45	..... French .....		0 50	0 80
Sulphuric .....		0 50	0 60	Glycerine, common crude .....		0 25	0 28
Antim. Nig., pulv .....		0 15	0 17	..... 30° .....		0 35	0 38
Tart .....		0 55	0 60	Prices .....		0 90	0 00
Alcohol, 95 per ct., tbl .....	Cash	2 75	3 0	Honey, Canada, beat .....		0 22	0 25
Arrowroot, Jamaica .....		0 14	0 22	Iron, Carb. Precip. ....		0 16	0 20
Bermuda .....		0 45	0 65	Citrate Ammon .....		0 95	1 00
Alum .....		0 02½	0 03½	..... & Quinine, oz .....		0 45	1 10
Balsam, Canada .....		0 45	0 50	..... & Strychine .....		0 18	0 20
Copaiba .....		0 40	1 1	Perchloric solution .....		0 16	0 20
Tolu .....		1 00	1 10	Sulphate, pure .....		0 06	0 10
Bark, Bayberry, pulv .....		0 18	0 20	Iodine, com. muc al. ....		2 25	2 50
Canella, .....		0 12	0 14	..... Resublimed .....		2 75	3 00
..... pulv .....		0 20	0 22	Jalapin .....	oz	0 75	1 50
Peruvian, yel. pulv .....		0 25	0 50	Kreosote .....	lbs	0 75	3 00
..... red .....		1 60	2 40	Leaves, Buchu .....		0 27	0 30
Prickly Ash .....		0 30	0 4	..... Meladonna .....		0 31	0 33
Slippery Elm, grd. bulk .....		0 18	0 25	Foxglove .....		0 27	0 38
..... flour, packets .....		0 28	0 32	Henbane .....		0 25	0 25
Sassafras .....		0 12	0 16	Morehound .....		0 15	0 25
Wild Cherry .....		0 10	0 12	Lobelia .....		0 20	0 25
Berries, Cubebs, ground .....		0 95	1 40	..... pulv. ....		0 40	0 45
Juniper .....		0 07	0 10	Senna, Alex .....		0 23	0 25
Beans, Tonquin .....		1 40	2 75	..... E. I. ....		0 10	0 14
Vanilla .....		8 50	10 50	..... Tinneville .....		0 13	0 25
Bismuth, Trismit .....		2 50	2 60	Uva Urai .....		0 15	0 17
Carb. ....		2 60	2 70	Lime, Chloride .....		0 02½	0 05
..... liquor .....		0 35	0 55	Lime, Hypo-phos hite .....		1 90	2 25
Rorax, refined .....		0 17	0 20	Sulphite .....		0 10	0 11
Camphor, American .....		0 35	0 37	Lead, Acetate .....		0 13	0 17
..... English .....		0 48	0 50	..... Brown .....		0 09	0 10
Cantharides .....		1 50	1 60	Leptandrin .....	oz	0 60	0 75
..... Powdered .....		1 61	1 75	Lye, Concentrated .....	doz	0 91	1 25
Chiretta .....		0 30	0 40	Liquorice, Solazzi .....	lb	0 50	0 55
Chloroform, Pure .....		1 15	1 75	..... Martucci .....		0 35	0 37
..... D. & F .....		1 90	2 00	..... Other brands .....		0 14	0 35
..... German .....		0 60	0 70	Magnesia, Carb. ....	1 oz	0 20	0 25
Chloral hydrate .....		1 35	1 60	..... 4 oz .....		0 18	0 22
Cinchonine, Muriate .....		0 41	0 48	Calcined .....	lb	0 60	0 70
..... Sulphate .....		0 34	0 42	Citrate .....	gran	0 40	0 75
Cinchonidia, Sulphate .....		1 00	1 21	Mercury .....	lb	0 60	0 65
Cochineal, S. G. ....		0 45	0 50	..... Ammoniated .....		1 25	1 30
..... Black .....		0 45	0 50	Bichlor .....		0 80	0 50
Collodion .....		0 75	0 90	..... Iodide .....		3 60	4 0
Cuttle-Fish Bone .....		0 35	0 40	Chloride .....		0 90	1 10
Ergot .....		0 60	0 80	C. Chalk .....		0 40	0 70
Extract Belladonna .....		3 10	3 60	Nit. Oxid .....		1 10	1 30
..... Colocynth, Co. ....		1 25	1 75	Morphia Acet .....	oz	2 75	2 95
..... Gentian .....		0 50	0 60	Mur .....		2 75	2 90
..... Hemlock, Ang .....		1 00	1 05	Sulph .....		2 85	3 03
..... Henbane .....		3 00	3 10	Musk, pure grain .....	oz	54 00	.....
..... Jalap .....		2 50	5 00	..... Canton .....		0 60	0 70
..... Mandrake .....		1 75	2 00	Moss, Irish .....		0 10	0 15
..... Nux Vomica .....	oz	0 20	0 30	Oil, Almonds, sweet .....	lb	0 60	0 65
..... Opium .....	oz	0 90	0 60	..... bitter .....		12 00	13 00
..... Rhubarb .....	lb	4 00	5 00	Aniseed .....		3 70	4 00
..... Sarsap. Hon. Co. ....		1 00	1 20	Bergamot, super .....		3 60	4 00
..... " Jam. Co. ....		4 00	4 50	Caraway .....		3 20	3 50
..... Taraxacum, Ang .....		0 65	0 80	Cassia .....		1 50	2 60
Flowers, Arnica .....		0 20	0 25	Castor, E. I .....		0 10	0 12
..... Chamomile .....		0 40	0 50	Cedar .....		0 50	0 70
Fuller's Earth .....		0 03	0 04	Citronella .....		1 25	1 50
Gum, Aloes, Barb .....		0 35	0 70	Cloves, Ang .....		2 50	3 00
..... Cape .....		0 20	0 25	Cod Liver, Nor., Imp. Gal		3 50	4 20
..... powdered .....		0 23	0 25	..... N. F. ....		2 25	2 50
..... Socot .....		0 54	0 75	Croton .....	lb	1 85	2 00
..... pulv .....		0 62	0 80	Hemlock .....		0 45	0 90
Arabic. Select .....		0 35	0 45	Juniper Wood .....		0 65	0 70
..... powdered .....		0 45	0 55	Berries .....		0 00	0 00
..... sorts .....		0 30	0 32	Lavand, Ang .....	oz	4 50	5 55

DRUGS, MEDICINES, &c.—*Cont'd*

	\$	c.	\$	c.
Oil, Lavand, Exotic.....lb.	1	40	3	50
Lemon.....	3	20	4	00
Orange.....	3	25	3	20
Neroli, super.....oz.	3	50	5	50
Origanum.....lb.	0	65	0	85
Peppermint Ang.....	13	00	15	00
" Amer.....	3	75	4	75
Rose, Virgin.....oz.	13	00	14	00
" good.....	7	00	8	00
Santal Aog.....lb.	9	00	9	75
Sassafras.....	1	00	1	20
Verbena.....	1	75	2	00
Wintergreen.....	4	00	4	50
Wormwood, pure.....	9	50	0	00
Ointment, blue.....	0	50	0	60
Opium, Turkey.....	3	90	4	25
pulv.....	7	70	9	00
Orange Peel, opt.....lb.	0	35	0	40
" good.....	0	16	0	25
Pill, Blue, Mass.....	0	55	0	75
Potas., Bi-chrom.....	3	14	0	16
Bi-tart.....	0	35	0	40
Bromide.....	0	48	0	55
Cyanide.....	0	52	0	55
Carbonate.....	0	13	0	15
Chlorate.....	0	22	0	21
Iodide.....	2	00	2	25
Nitrate.....	8	75	11	00
Sulphuret.....	0	25	0	35
Pepsin, Boudault's.....oz.	1	20	1	20
Morson's.....oz.	0	90	1	00
Phosphorus.....	0	85	1	05
Podophyllin.....	0	45	0	50
Quinine, Howard's.....	2	30	2	75
German.....	1	40	2	05
Root, Colombo.....lb.	0	30	0	35
Curcuma, grd.....	0	11	0	15
Elecampane.....	0	16	0	17
Gentian.....	0	15	0	20
" pulv.....	0	18	0	20
Hellebore, pulv.....	0	15	0	18
Ipecac.....	1	75	0	00
Jalap, Vera Cruz.....	0	38	0	45
Liquorice, select.....	0	13	0	15
" powdered.....	0	13	0	15
Mandrake.....	0	12	0	20
Orris.....	0	18	0	25
Rhubarb, Trimmed.....	2	25	2	40
" E. I.....	0	85	0	95
" pulv.....	1	00	1	20
Sarsap., Hond.....	0	50	0	65
" Jam.....	0	60	0	00
Squills.....	0	16	0	20
Senega.....	0	95	1	00
Spigelia.....	0	55	0	65
Sal., Epsom.....oz.	0	17	0	02
Rochelle.....	0	35	0	38
Soda.....	1	25	2	50
Seed, Anise.....	0	12	0	15
Canary.....	6	50	7	00
Cardamon.....	2	40	2	75
Fenugreek, g'd.....	0	03	0	09
Flax, Oat. Cash 100 lbs	3	25	0	00
" imported.....	3	00	3	00
Hemp.....	0	06	0	06
Mustard, white.....	0	10	0	15
Senega.....	0	60	0	75
Saffron, American.....	18	00	0	00
Spanish.....	5	00	5	75
Santonine.....	0	08	0	09
Sago.....	13	20	14	00
Silver, Nitrate.....Cash	0	08	0	11
Soap, Castile, mottled.....	0	02	0	05
Soda, Ash.....	3	00	3	60
Bicarb. Newcastle, Keg	0	16	0	16
" Howard's.....lb.	2	50	5	00
Caustic.....	0	40	0	45
Spirits Ammon., arom.....	1	75	2	00
Strychnine, Crystals.....oz	0	15	0	16
Sulphur, Precip.....lb.	0	03	0	03
Sublimed.....	0	02	0	03
Roll.....	0	50	0	55
Verdigris.....	0	65	0	75
Wax, White, pure.....	0	10	0	15
Zinc, Chloride.....oz	0	09	0	12
Sulphate, pure.....lb.	0	06	0	10
" common.....	0	35	0	60

DYE STUFFS.

Annatto.....	2	15	2	50
Aniline, Magenta, cryst.....	0	35	0	60

DYE STUFFS—*Continued*.

Argols, ground.....	0	15	0	33
Blue Vitriol, pure.....	0	06	0	08
Camwood.....	0	05	0	08
Copperas, Green.....	0	01	0	02
Cudbear.....	0	15	0	30
Fustic, Cuban.....	0	02	0	03
Indigo.....	0	75	1	00
Extract.....	0	25	0	36
Japonica.....	0	08	0	10
Lacdye, powdered.....	0	33	0	38
Logwood, Camp.....	0	02	0	03
" Extract.....	0	9	0	12
" 1 lb. bxs.....	0	13	—	—
" 1 lb. ".....	0	14	—	—
Madder, best Dutch.....	0	12	0	14
Quercitron.....	0	03	0	05
Sumac.....	0	06	0	07
Tin, Muriate.....	0	10	0	12
Redwood.....	0	03	0	04
SPICES.				
Allspice.....	0	20	0	23
Cassia.....	0	20	0	25
Cloves.....	0	40	0	50
Cayenne.....	0	33	0	37
Ginger, E. I.....	0	12	0	14
Jam.....	0	27	0	30
Mace.....	0	85	1	00
Mustard, com.....	0	20	0	25
Nutmegs.....	0	95	1	00
Pepper, Black.....	0	18	0	20
White.....	0	30	0	33
PAINTS, DRY.				
Black, Lamp, com.....	0	08	0	10
" refined.....	0	18	0	25
Blue, Celestial.....	0	09	0	12
Prussian.....	0	65	0	75
Brown, Vandyke.....	0	05	0	06
Chalk, White.....	0	01	0	01
Green, Brunswick.....	0	07	0	10
Chrome.....	0	16	0	25
Paris.....	0	22	0	24
Magnesia.....	0	15	0	20
Litharge.....	0	07	0	08
Red Lead.....	0	05	0	07
Venetian.....	0	02	0	03
Sienna, B. & G.....	0	07	0	08
Umber.....	0	07	0	10
Vermillion, English.....	0	09	1	00
American.....	0	20	0	22
Whiting.....100 lbs	0	85	1	00
White Lead, dry, gen.....lb.	0	06	7	00
" No. 1.....	0	05	6	00
Yellow Chrome.....	0	09	0	15
" Ochre.....	0	02	0	03
Zinc White, Star.....	0	06	0	11
COLORS, IN OIL.				
Blue Paint.....	0	12	0	15
Fire Proof Paint.....	0	06	0	08
Green, Paris.....	0	25	0	30
Red, Venetian.....	0	07	0	10
Patent Dryers, 1 lb tins.....	0	10	0	12
Putty.....	0	03	0	03
Yellow Ochre.....	0	08	1	12
White Lead, gen. 25 lb. tins.	1	80	2	00
" No. 1.....	1	60	0	75
" No. 2, less 7 1/2 lbs	1	40	0	50
" No. 3.....	1	20	1	25
White Zinc, Snow.....	2	25	2	35
NAVAL STORES.				
Black Pitch.....	3	50	4	00
Rosin, Strained.....lb	3	60	4	00
Clear, pale.....	5	50	6	50
Spirits Turpentine Imp. Gall.....	0	90	1	00
Tar Wood.....	8	80	5	00
OILS.				
Cod Imp. Gall.....	7	50	8	50
Lard, extra.....	1	10	1	20
No. 1.....	1	05	1	10
Linseed, Raw per qlbs.....	0	68	0	75
Boiled.....	0	72	0	30
Neats-foot.....	1	30	1	40
Olive, Common, Imp. Gall.....	1	05	1	45
Salad.....	1	10	2	20
" Pints, cases.....	0	00	4	20
" Quarts.....	5	25	5	50
Seal Oil, Pale, Imp. Gal.....	0	40	0	95
Union Salad.....	1	20	1	20
Sperm, genuine.....	2	40	8	50

# CANADIAN PHARMACEUTICAL JOURNAL

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## ON THE USE OF METHYLATED ALCOHOL IN LINIMENT AND TINCTURE OF IODINE.

BY E. GREGORY.

My attention has been called, by a short paragraph in the February number of the JOURNAL, to the fact that Mr. Peter McEwan, of Edinburgh, had made a very interesting report concerning a sample of liniment of iodine, which had exhibited extraordinary pungency. As I have had a slightly unpleasant experience with a somewhat similar compound, a few notes on the subject may not be out of place.

We have a market here for the tincture of iodine made according to the U. S. P., which is a simple solution of iodine in alcohol. It is used only for external application. Some time last summer, my clerk suggested that it might be made from methylated alcohol, and, contrary to usual custom, I consented to make trial of half a gallon. After preparation it was carefully examined, and it seemed as if the odor of methyl alcohol was entirely covered by that of iodine, and, in no other respect did it seem to differ from the same tincture made with ordinary alcohol. For a time all went well, but, at the end of about a month, a patient complained that he could not use it on his knee, because "it burnt him and made his eyes smart when he was applying it." This complaint was disregarded, but soon there were more of the same kind, and we then concluded to withdraw it from general sale, and confine it to veterinary practice. Before this happened, however, a physician had got hold of some of the tincture which he used in his gynecological practice, causing to his patient a few minutes of intense suffering, and three or four days confinement to a recumbent position, from the very great soreness produced by the application. I have just examined the last few ounces of this tincture, and on pouring out the liquid, the extremely pungent fumes filled the whole store, causing the eyes of both clerks and customers to

water very freely. So pungent was it that although the day was cold and blustering, we were compelled to open all the doors and thoroughly ventilate the place.

At first I was inclined to think that the formation of a small quantity of iodide of methyl might account for the great pungency developed, but soon abandoned that theory and had laid the matter over for further consideration and experiment. I am now convinced that Mr. McEwan has struck the key-note when he suggests that allyl alcohol may be present, which unites with the iodine to form some iodo-allyl compound. In confirmation of this it may be stated that the odor of the tincture was decidedly "garlicky," and the effect upon the nose and eyes very similar to that of oil of mustard, but more powerful. Mr. McEwan states that he prepared some iodine liniment, omitting the camphor, and found that the pungency was not produced, auguring from this experiment that the camphor had in some way influenced the development of pungency. It will be seen, however, that my experience establishes the fact that camphor has nothing to do with the reaction.

In view of the above facts it would be interesting to inquire if a certain brand of "crystal methyl" has entered, to any extent, into the composition of tinctures and other pharmaceutical preparations, and what the chemical and therapeutical results of such a course are likely to be. It is well known that it has been much pushed and recommended as having scarcely any more odor than ordinary alcohol.

Should time and opportunity be afforded me I will endeavor to follow up this subject by such experiments as the busy avocations and slender resources of a country pharmacy will permit.

Lindsay, April 18, 1883.

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## INSECTS INJURIOUS TO DRUGS.\*

BY WILLIAM EDWIN SAUNDERS, PH.G.

In this paper is given simply what has been noted by the writer during a study of these insects extending over more than a year.

*Sirodrepia Panicea*.—This is the elliptical, reddish-brown beetle, about one-eighth of an inch long, which is found in almost every edible drug, and in some, such as aconite root and capsicum, that would be pronounced far from edible. In addition to these two drugs, I have found it in bitter almonds, sweet almonds, angelica, boneset, calumba, chamomile, chocolate, coriander, dandelion, elm

\*From an Inaugural Essay presented to the Philadelphia College of Pharmacy, and published in the *Am. Jour. of Pharm.*



bark, ergot, extract of licorice, German chamomile, orris root, prince's pine, rhubarb, squill, and sweet flag.

The larva is white, with a brown head, is about twice as long as the beetle when full grown, although it is seldom or never seen stretched out at full length, always remaining curled up in a ball. It will in time fairly honeycomb a piece of root with small holes about one-twenty-fifth of an inch in diameter, at the end of which it is generally to be seen at home. Under the influence of camphor, these larvæ become uneasy, but being apparently unable to crawl away, resign themselves to their fate, and seem to thrive just as well with camphor as without it.

*Calandra Remotopunctata*.—This is a small black beetle, about the size of the last, with what is popularly termed a "snout," projecting from the front of the head downwards. Under the microscope the back, thorax, and head are seen to be finely pitted, giving the insect a rough appearance. It was found in large numbers, the larva feeding on pearl barley, inside of which it lives, the egg being probably laid in the grain by the parent, and on hatching, the little insect makes its home there, eating all but the shell, and sometimes attacking the grain from the outside.

*Tenebrioides Mauritanica*, a species of "meal-worm," was found in pearl barley, and one specimen in calumba. It is a dark brown beetle, five-sixteenths of an inch long, the head and thorax forming nearly half the total length, and the mouth being fringed with hair. The back, which at first sight appears perfectly smooth, proves to be, when examined under the microscope, longitudinally corrugated. The larva is nearly half an inch long, white, with a brown head, and between the jaws is a row of hair as in the perfect insect. The posterior end is furnished with a pair of jaws very similar, though, of course, for a different purpose.

*Trebolium Furrugineum* is a flat, reddish-brown beetle, about one-eighth of an inch long, appearing smooth to the naked eye, though the microscope shows the back numerously pitted. These insects affect patent foods and similar substances, and the beetles are possessed of remarkable longevity, as proved by the fact that I have kept a few alive for two months in a small box with a little cerealina, which seems to be their favorite food. Whether the beetles themselves eat it or not I do not know, but they certainly have a liking for the dead bodies of other beetles.

*Silvanus Surinamensis* is a narrow, brown beetle, almost one-eighth of an inch long, with a pitted and longitudinally corrugated back. One specimen only was found, on anthemis.

*Anthrenus Varius*.—This insect has been found only in cantharides, but I believe, also attacks other animal drugs, such as castoreum. During the month of July there emerges from the egg a very active larva, densely covered on the tops of the segments with stiff brown hairs, which, at the posterior end, point towards

the centre of the back, form a ridge, and when the insect is annoyed, it has the power of dividing the ridge in the centre and throwing half down on each side in a fan-like position, the object of which movement could not be determined. When the insect has been feeding on the whole cantharides, all these hairs on the back become rubbed off, those forming the ridge being generally last to go, because, being on the downward slope of the body they are not exposed to the same amount of friction. Underneath, however, the hairs are shorter, and do not become rubbed off as on the back.

The larvæ consists of eleven segments, those at the ends being of a much deeper brown than those towards the middle, and the six legs being inserted on the three anterior segments, each furnished with a short, straight claw. The skins are shed quite often during the larval state, and are discarded by a slit nearly the length of the back, terminating indifferently at either end, and through which the insect emerges. The shed skins present a beautiful iridescent appearance under the microscope when viewed by reflected light.

These larvæ feed on the cantharides all winter, and, if in quantity, commit great havoc, leaving only the hard exterior portions untouched, such as the upper portion of the thorax, the green wing cases, and transparent wings. When their legitimate food gives out they have no compunction about first eating their dead parents, and then each other, but on this diet they do not seem to thrive so well.

The beetle emerges in May or June, and is about one-eighth of an inch long, oval, and black, the upper parts being marbled and streaked with whitish and rufous hairs, which are rubbed off after death if the insect is subjected to any rough usage.

Camphor does not kill these larvæ, and after keeping some for a day in a small box about a quarter full of camphor, the only thing worthy of remark in their actions was that they did not seem quite so lively as those kept without it. That they have a distaste for it, however, is proved by the fact that some which were put in a box with holes in it, left the box during the night. The Pharmacopœia direction to keep camphor with the cantharides is, therefore, not a *remedy*, merely a preventive measure, and not a very good one either. The vapor of chloroform rapidly kills them, so that by putting a small quantity of chloroform in a gallipot on the top of the infested cantharides, the heavy vapor will sink through it and destroy them.

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It is said that the flavor of maple syrup may be communicated to cane or glucose syrup by tincture of guaiacum deprived of its resin by precipitation by water.

## GENERAL RULES FOR THE DISPENSARY.

The following, translated for the *Chemist & Druggist* from the *Pharmaceutische Kalender*, of Dr. E. Geissler, may be suggestive to dispensers.

1. Every prescription brought for preparation should be read through by the dispenser, and if necessary the name of the patient or of the messenger should be marked on it.

If it is required that the half or the quarter of the medicine only should be prepared, this may be noted by turning down one or both of the bottom corners of the prescription.

2. The dispenser only proceeds to the preparation of the medicine after he has read it through from beginning to end.

The observation of this rule tends to prevent an oversight or error. Should the prescription order a powerfully active or narcotic substance, the dose should be compared with the legal dose list. Narcotic or poisonous substances, especially alkaloids and salts, which are either wholly or partially insoluble in a liquid medicine, should always be held back until after consultation with the prescriber.

3. When the medicine is made the dispenser should again read through the prescription, prove his work, and assure himself of the presence of every ingredient ordered.

4. A label is provided for every medicine without delay when its preparation is completed.

5. Two or more ingredients should never be put on the same scale at the same time.

6. The medicine can only be delivered after the person applying for it has given the name which the label bears.

7. On delivery of the medicine the correctness of the label is again checked.

8. Every bottle, jar, &c., used in the preparation of the medicine should be immediately returned to its alphabetical order, and every hand-scale used should be at once cleaned and returned to its place.

9. The dispenser should read the label on every bottle, &c., which he takes in his hand before he uses any of its contents.

10 and 11 refers to the pricing of the medicines, which, in Germany, is done according to a tariff fixed by law.

12. The prepared medicine is set aside in a part of the shop specially reserved therefor, the prescription under the medicine ; but on delivery, if the prescription remain, it should be at once put in the prescription case.

13. Of fats, heavy oils, and tinctures, 20 drops ; of ethereal oils, acetic ether, chloroform, spirit of ether, 25 drops ; of pure ether, 50 drops ; are reckoned to equal 1 gramme. Of diluted

mineral acids 16 drops are considered equal to the weight of 1 gramme.

14. In dispensing all fluids are weighed, never measured in hollow measures. Every quantity of a medicine should be weighed by scales and weights, never guessed.

15. Salts or similar bodies ordered in a mixture should be added in the form of a strained or filtered solution. But if the quantity of the salt is so great that it would crystallise out of a cold solution, it should be added in the form of a fine powder, without the employment of any heat.

16. Decoctions, infusions, and emulsions are to be prepared in the proportion of 1 part of the substance to 10 parts of the resulting fluid, if no special directions are given in the prescription.

In case of a powerful or narcotic medicine reference should be made to the prescriber.

17. Pills, if not otherwise ordered, should be made to weigh about 125 milligrammes (= 2 grains), and powdered with lycopodium.

18. No dose should be changed without the knowledge of the prescriber.

19. If a medicine is prescribed which exists in various concentrations, or simple or compound, raw or purified, officinal or commercial, and more definite instructions are not to be had, the weaker, the simpler, or the purer sort is not to be dispensed. Of medicines of different money values it is always right to dispense the dearer or better. Castoreum Sibiricum is only given on the express order of the physician.

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## THE LACTOMETER FOR DETERMINING THE VALUE OF MILK.\*

BY GUSTAVUS PILE.

The analysis of milk by the methods usually given, although seeming quite simple and capable of yielding satisfactory results with but little skill, is, however, an operation requiring considerable care and nicety of manipulation, making it altogether beyond the ability of the general public and the dealer to practice. It would appear on first thought as though the specific gravity would afford an excellent method for determining the amount of solid matter in the milk, but on account of the great difference in the gravities of the several constituents it has proved to be at times very misleading; for a rich milk, containing a very large percentage of cream, would surely give a specific gravity too low, the cream having a gravity that would reduce the whole to a point indicated by a poor sample. Now, in order to make the specific gravity available as a

\* American Journal of Pharmacy.

basis for forming a scale that would prove useful, I made several experiments in order to separate, if possible, the fatty portion by means of a solvent and thus get rid of the chief obstacle, but on account of the great emulsifying capacity of milk, all efforts in that direction proved ineffectual. An illustration of this power of milk is seen by the samples exhibited, where the attempt was made to dissolve the fat by the addition of chloroform. It was thought that by agitating it and milk together the fat would be extracted and carried to the bottom of the tube, leaving the upper portion in a condition to be tested for the amount of remaining solid matter by means of a hydrometer floated in it. In one of the test tubes, 5 cc. of chloroform and 10 cc. of milk are mixed and not the slightest vestige of separation can be seen; in the other tube equal volumes of each are used and the amount of separation is very slight, even after the lapse of several hours. Bisulphide of carbon, ether, benzin, alcohol, and several mixtures were also tried, but all were found to be emulsified to a degree that rendered the use of such solvents entirely useless. The best method for effecting the separation appears to be the natural process of allowing the cream to rise to the surface and then drawing it off; and while there will still be a portion of cream remaining permanently in the milk, yet, according to a number of experiments, the percentage appears to be nearly uniform in proportion to the amount of the other solids and can therefore be estimated in making a scale. The table here presented has been made from quite a number of observations, and a lactometer scale made to correspond with it, representing the percentage of solid matter, will be found to give results closely coinciding with an actual analysis. The specific gravity of 1.0320 is taken as a standard for pure milk after being skimmed, and the amount of solid matter it contains equal to 14 per cent., including the fat held in suspension.

Specific gravity.      Per cent., solids.      Per cent., water.

1.0320	14.	0.
1.0297	13.	7.7
1.0291	12.7	10.
1.0280	12.	14.3
1.0267	11.6	20.
1.0251	11.	27.5
1.0246	10.8	30.
1.0229	10.	40.
1.0213	9.3	50.
1.0206	9.	55.5
1.0200	8.7	60.
1.0188	8.2	70.
1.0183	8.	75.
1.0178	7.7	80.
1.0168	7.7	90.
1.0160	7.	100.

In using the lactometer made according to this scale, it is first necessary to fill, with the milk to be tested, a jar graduated to indicate the percentage of cream, allow it to stand for a length of time sufficient for the cream to rise, this will be from 6 to 8 hours, when a distinct demarcation will allow the percentage to be readily read off. By means of a pipette the cream is to be removed, and the lactometer floated in the milk, when the per cent. of solids can be seen without any further operation. This is a very easy process and can be conducted by the consumer or ordinary milkman, and will give results that are reliable enough for all practical purposes.

Another method intended for those who buy milk in large quantities from surrounding dairies is the one here described. The instruments required are two graduated jars for showing the percentage of cream, called creamometers, one per cent. glass and a lactometer. Fill one of the creamometers to the mark designated 10 with milk that is known to be pure and drawn from several cows. This will be the standard for pure milk for that day. Fill the other creamometer to the same mark with the milk to be tested, and set both aside for the cream to rise. Note the quantity on each, and if the amount is less on the sample tested than on the other it indicates dilution or skimmed milk. Now remove the cream from each and introduce the lactometer in the one containing the pure milk and note the mark on the scale where it floats. Then remove it to the other jar and note also where it floats. If it sinks lower than the first it is evidence of dilution. Replace the lactometer in the jar of pure milk, and from the per cent. glass filled with water exactly to the line marked 0, pour into it enough water to cause the lactometer to sink to the same mark as that shown by the diluted milk. By reading off the amount of water used the exact percentage of dilution will be seen.

It has been asserted that more cream will rise from milk that has been slightly diluted than from the pure article, but after repeated trials with varied amounts of water, ranging from 10 to 25 per cent., I have seen no such result, but the ratio always remains about the same. I have noticed, however, that there is considerable difference in the time required for the separation to take place.

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GEZOW'S RUSSIAN CORN CURE.—The formula is as follows: Extract of *cannabis indica*, 5 parts; salicylic acid, 30 parts; collodion, 240 parts. Mix, and dissolve. The result is a clear light green solution, which is to be applied with a camel-hair pencil, so as to form a thick coating, for four consecutive nights and mornings. On the fifth day, after a hot bath, the corn comes off, without pain, adhering to the collodion film.

# HALF-HOUR WITH THE FLOWERS USED IN PERFUMERY.\*

(Continued from page 304.)

BY W. A. WRENN.

**MIGNONETTE** (*Reseda ororata*) is well known, and is much esteemed for its fragrance. Flowering in March and April, it is then prepared for use in perfumery. The cold March winds sometimes spoil the crops for the season. Several imitations are in use, and are very similar to the genuine perfume.

**PELARGONIUM ROSEUM.**—Rose geranium is grown for perfumery in Provence, and there is an Algerian product known as "essence de geranium d'Afrique," inferior to that distilled at Grasse. This oil is used to adulterate otto de rose. Owing to the small yield—viz., 1 lb. from 1,000 lbs.—it is expensive, and its characteristic odour is greatly esteemed as an addendum to the numerous items in millefleur essence. *Ol. geranii* E. I. is not to be confounded with pelargonium, but is obtained from several species of the genus *Andropogon*, and termed "ginger-grass oil."

**ROSE.**—First, the species *Rosa Gallica*, cultivated in Southern Europe, Asia Minor, and Britain. The petals of this flower are obtained in their most perfect state for druggists' use from Mitcham. The quantity there obtained is very small, and Mitcham rose petals therefore command a high price: the same remark applies to all English-cultivated rose-leaves. The dried Continental leaves are often dyed with aniline, which may be detected by macerating in spirit to which is added a few drops of ammonia. The true state of the leaves can soon be seen.

*Rosa Damascena.*—From this is obtained the much-prized otto, or attar, of roses, which now rules at a high price. When first introduced into this country it was subject to duty about 10s. per oz.; this was gradually reduced, and in 1860 was taken off altogether.

Otto of roses is imported from Bulgaria and Turkey, principally from the southern side of the Balkan range—from Kizanlik and Philippopolis—and from Smyrna (Asia Minor). It is also made in India, in the valley of the Ganges, but is never exported thence. There is also a little manufactured in France, but the quality will not bear comparison with Kizanlik. Otto is largely adulterated, as I mentioned previously, with oil of rose geranium (pelargonium), and also with oil of *Andropogon schænanthus*, a grass grown in India, which is exported to Turkey solely for the purpose of adulterating otto.

The best tests for genuine otto are the degree at which it congeals, which should be 55° Fahr., and the appearance of the mass.

\*A Paper read before the Chemists' Assistants' Association on January 17th, 1883, and published in the Chemist & Druggist.

The crystals, or laminæ, should be shiny, feathery, and nearly transparent. When thick and milky, and more deposited at the bottom of the bottle than at the top, spermaceti is present, and perhaps paraffin-wax, which latter is hardly so readily detected as spermaceti.

Rose-water is also prepared from *Rosa Damascena*, together with the essence and pomade, and imported from Grasse, Cannes, and Nismes.

**TUBEREUSE.**—Tuberose grows in the neighbourhood of Grasse, and is a bulb which requires to be replanted each spring, not being of sufficient hardiness to stand the winter. It blooms from July to October, and is not very extensively cultivated. Being a very delicate perfume, it is prepared by the cold "enfleurage process."

**VIOLET** (*Viola odorata*) is the most esteemed of all perfumes. It is cultivated over a large expanse of country, extending as far west as Avignon; in fact, wherever the olive is grown, being planted chiefly in olive orchards, which protect the plants from the cold winds, to which they are very susceptible. The flowers are gathered in February and March. The crop is often a failure, the result being a considerable increase in the price of the pomade and essence, in addition to bad quality.

**VERBENA.**—That variety which is used in perfumery is *Lippia citriodora*—lemon grass plant—and is prepared at Travancore and Singapore, in the Straits Settlements. The oil should be re-distilled before use in compounding.

**AMBERGRIS.**—A very useful adjunct to a toilet essence. When preparing essence of ambergris, macerate in hot water, to which is added the same quantity, by weight, of liquor potassæ as the ambergris; spirit to be added after a day or two, and maceration continued for two months before using.

**MUSK.**—The same remarks apply here. Always rub down the grain with sand or pumice-stone before using. The addition of one pint of any simple essence made from pomade—jasmin preferred—increases the permanence of musk. A few drops of acetic acid prevents the accumulation of ammoniacal aroma.

**ORRIS.**—Use only the finest Florentine; exhaust by maceration and percolation.

**TONQUIN AND VANILLOES** should be both selected from good samples, and care should be taken to remove the fixed oil, which may be done by adding  $\frac{1}{2}$  pint of water to each gallon of the essences, when the oil will float on the surface. If not separated when compounded the essences will require a second filtration.

**ACID BENZOIC.**—This I have found a valuable addition to essences which are made from essential oils, and not from pomades. It is needless to add that only the English resublimed and that prepared from gum benzoin should be used.

The preparation of pomades and essences in the South of



France has been so ably and minutely described in Piesse's "Art of Perfumery" that I cannot do better than advise my hearers to study the book themselves. I may add that the cold "enfleurage process," which is performed by strewing layers of flowers over thin layers of fat, the flowers being renewed daily until a good perfume is obtained, is more used than formerly, and it is the desire of manufacturers to export what are termed extra-saturated pomades in place of the well-known No. 24 strength.

METHYL CHLORIDE has been suggested as a good menstruum to exhaust flowers of their perfumes, and a manufactory on this principle was established at Cannes. I do not know if it has turned out a success. The chief difficulty at first was to have a pure methyl chloride, which was obtained by treating the ordinary methyl chloride with sulphuric acid, which absorbed the greater portion of the impurities. The extract has to be concentrated in vacuo—another source of difficulty—so I doubt if the old process of fat maceration can be beaten.

I subjoin a few formulæ for the manufacture of some of the best-known essences. I take for granted that the simple essences are ready at hand, and I should advise compounders—excepting those who make perfumes on a very large scale—to rely upon their wholesale friends to supply simple essences. The time, trouble, and loss in spirit which occur when making small quantities leave but little profit.

#### FORMULÆ.

Given essences of uniform strength, essential oils of finest quality, spirit best English grain, 56 o.p.

##### *Ess. Bouquet.*

Ext. jasmin .....	Oiv.
“ violets .....	Oiv.
“ rose .....	Oij.
“ orris .....	Oij.
Ess. bergamotte .....	3v.
“ citron zeste .....	3j.
“ musk.....	3iv.
“ vanilla .....	3viii.
Otto de rose.....	3iv.
Sp. vini rect.....	Oij. or q.s.

##### *Ess. Jockey Club.*

Ext. jasmin .....	Oij.
“ tubereuse .....	Oij.
“ fleur d'orange .....	Oiv.
“ cassie .....	Oj.
“ tonka.....	Oj.
Ol. santal. flav. ang.....	3ij.
“ neroli.....	3ss.

*Half-hour with the Flowers used in Perfumery.*

Otto de rose, virgin.....	3j.
Sp. vini. rect.....	Oj. or q.s.

*Ess. Patchouli.*

Ol. patchouli .....	3iij.
" santal flav. ang.....	3ss.
Otto de rose .....	3ij.
Ext. styrax .....	3ij.
" civet .....	3ij.
" orris .....	Oss.
" jasmin .....	Oj.
Acid benzoic.....	3j.
Sp. vini rect .....	Oviiij.

*Ess. Rondeletia.*

Ext. orris .....	Oss.
" jasmin .....	Oss.
" musk.....	3iv.
Ol. lavand ang .....	3ij.
" bergamotte .....	3ss.
" cloves .....	3j.
" cedrat .....	3ss.
Otto de rose.....	3ij.
Sp. vini rect.....	Oiv.

*Es. Millefleurs.*

Ext. jasmin .....	Oij.
" rose .....	Oj.
" tubereuse.....	Oj.
" fleur d'orange.....	Oj.
" cassie .....	Oj.
" orris .....	Oj.
" vanilla .....	Oss.
" acacia flowers.....	Oss.
" musk.....	3iv.
Ol. rose geranium .....	3j.
" bergamotte .....	3j.
" lavand .....	3ss.
" neroli .....	℥xx.
" thyme rouge .....	℥xx.
Sep. vini rect .....	Oij. or q.s.

*Ess. Frangipanni.*

Ext. orris .....	Oiv.
" jasmin .....	Oij.
" tuberose .....	Oij.
" vanilla .....	Oj.
" styrax .....	Oss.
" benzoin.....	Oss.

Ol. patchouli .....	3j.
“ lavand ang .....	3ss.
“ santal flav .....	3ss.
“ red cedar wood .....	3ss.
“ pimento .....	℥xx.
“ verbenā .....	℥xx.
“ neroli .....	℥xx.
“ cinnamon ver .....	℥xx.
Sp. vini rect .....	Oj. or q.s.

*Ess. White Rose.*

Ext. tubereuse .....	Oij.
“ rose .....	Oiv.
“ jasmin .....	Oj.
“ violet.....	Oj.
“ orris .....	Oj.
Otte de rose, virgin.....	3ij.
Ext. musk.....	3vj.
Acid benzoic.....	3j.
Sp. vini rect.....	Oj. or q.s.

In conclusion, let me say I found much information in Hanbury's "Pharmacographia," and I myself engaged in a holiday ramble in the Riviera, from Genoa westward as far as Marseilles, then inland through Avignon, a détour being made to Mont Ventoux. The whole distance, even back to Paris, was performed on a bicycle, and the useful and interesting information I received from numerous flower-growers and manufacturers, who I found ever ready to give every information, added very much to the enjoyment of my holiday, an example of spending one I should recommend to many athletic pharmacists, feeling sure the labor will not be in vain.

## ACTION OF SALICYLIC ACID UPON THE SKIN.

Dr. Unna, *Monatshieft für pr. Dermatologie*, relates his experience with this drug. It is a sure remedy for the removal of the normal or pathological epidermis without pain in a whole, non-desquamated membrane. It would be interesting to determine whether such an action is caused through the medium of the acid upon the epidermis itself. The displacement always takes place in the epidermis, and is deeper the stronger the concentration of the acid and the denser the epidermis. The author has never seen a wet surface after the removal, but one covered with so small an epidermist that its shiny surface seemed deep red, and proved very painful to the touch. In all kinds of callosity, with or with-

out papillar hypertrophy, in syphilitic and non-syphilitic psoriasis of the volar surfaces of the hands and feet, in aggregations of squamæ of every source, salicylic acid is the most pleasant and surest keratolytical remedy, as it is inodorous, painless, and colorless, and does not irritate the surrounding tissues. The total removal of the epidermis can only take place with the contemporaneous use of other substances, which soften the epidermic cells. The colloidium of salicylic acid is an efficient remedy. The application of a ten per cent. ointment, with a gutta percha covering, acts well also. But evidently the simple application of gutta percha tissue covered with salicylic acid ointment of five to twenty grams, according to the thickness of the horny layer, is the most efficacious. The bandage lies undisturbed for four to eight days, when it can be taken off like a glove. Salicylic acid ointment is therefore the best corn-plaster.—*Druggists' Circular*.

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## SACCHARIN AND SACCHARIC ACID.\*

BY HEINRICH KILIANI.

Saccharin is formed when 100 grams powdered calcium hydrate are added to a cold solution of 1 kg. of inverted sugar dissolved in 9 lbs. of water, the powdered mixture thus produced is kept in a well stoppered bottle, and repeatedly shaken. After two weeks an additional quantity of 400 grams of calcium hydrate is added. The contents of the vessel are filtered after two months standing, when it has been found that its reducing effect on an alkaline copper solution has become almost nothing. Then the filtrate is saturated with carbon dioxide, the remainder of the lime carefully precipitated with oxalic acid, and the solution, after being again filtered, is brought to a syrupy consistency over a water bath. After a few days a large crop of crystals become visible; these may be recrystallized from boiling water. According to Scheibler, free saccharic acid cannot exist, as it immediately goes over into anhydro-saccharic acid, or, as it is sometimes called, saccharin. The present author denies this statement, and says that the transformation of saccharin into saccharic acid is easily effected. When an aqueous solution of saccharin is heated to boiling, and then allowed to stand for a few days, a strong acid reaction will be perceptible in the liquid. When neutralized and treated in this same manner, the acidity of the solution is again developed. This experiment can be repeated until all of the saccharin is changed into saccharic acid. When a solution of saccharin is heated with potassium carbonate a substance

\* Drug News.

$C_6H_{10}OK$ , potassium saccharate is produced; this separates out from the liquid in large crystals, which do not change when exposed to the air. The calcium, barium, zinc and copper salts have been prepared in a similar manner. Concentrated nitric acid when acting on saccharin produces an acid having the formula  $C_6H_{10}O_7$ , with a taste similar to citric acid, and whose calcium salt has the composition  $C_6H_8CaO_7$ . This investigation is to be still further carried on.—*Ber. Deut. Chem. Gesel.*, 15, 2953.

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## FORMATION OF DIASTASE BY THE ACTION OF MOULDS.

In a paper read before the Applied Chemistry and Physics Section of the Society of Arts (*Journ. Soc. Arts*, April 20, p. 545), Professor R. W. Atkinson called attention to the subject of the formation of diastase from grain by the action of moulds, as illustrated in the production of the Japanese fermented drink, "sake." The first steps especially of the manufacture as described, which include the preparation of the diastatic material, appear full of interest to the pharmacist at a time when preparations containing diastase and other ferments are in such great demand. The preparation of *Koji* diastase differs in a very marked manner from the malting process. In the case of malt the degradation of albuminoid matter in the barley grain, which results in the formation of diastase, is the effect of a vital process or germination, whilst in the case of *koji*, the first step is to destroy all vitality in the rice grain by removing the husk and embryo and then steaming it. The rice after this treatment is placed in contact with growing mould, the mycelium of which penetrates the substance of the grain and there acts upon the starch and nitrogenous matter, liberating carbonic acid and producing certain soluble nitrogenous bodies, which are capable of converting starch jelly into sugar and dextrin. After the rice has been mixed with the fungus spores it is spread out on trays, which are arranged in underground chambers, kept at a temperature between  $79^{\circ}$  to  $84^{\circ}$  F., the heat developed during the growth of the fungus being ample for this purpose. The action does not give rise to the evolution of any ammonia possibly because the fructification of the mould is avoided except when a fresh supply of spores is required. In the freshly finished *koji*, the soft and swollen grains of rice appear bound together into lumps by fine whitesilky filaments. Water at a temperature of  $113^{\circ}$  F. almost entirely dissolves it, leaving only the cellulose skeleton of the grain and mycelium. Treated with cold water a considerable portion dissolves, forming when filtered a golden yellow solution possessing in a marked degree the property of converting starch into sugar.

It is worthy of notice that the conversion does not, as in the case of malt, stop short at the production of maltose, but that hydration of the maltose rapidly takes place, with the formation of glucose. Professor Atkinson is unable to give any very definite information as to the nature of the mould employed. The powder sown is of a yellowish-green colour, and appears to be a mixture of spores, principally of species of *Penicillium* and *Mucor*; this is confirmed by the fact that it is used also in the production of yeast, and that it sometimes gives rise to the butyric fermentation.—*Pharm. Jour. and Trans.*

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## SPONGE AND THE SPONGE FISHERIES.

The following are the chief points of interest in the paper on this subject read by Mr. J. H. Pearce, at an evening meeting of the students of the Ontario College of Pharmacy:

Owing to our geographical position, we must have recourse to the works and reports of those more highly favored, who can study the *Spongiadæ* on the coasts of Great Britain, and on the Continental and American seas producing them, while we have to content ourselves with the physiological study of very limited specimens occasionally found at the Island, opposite Toronto, and in the Grenadier and a few other ponds contiguous thereto.

The previous lecture having dealt with the physiology and anatomy of the class, this paper was devoted to the sponges of commerce, their construction giving rise to two divisions: 1st., the common sponge, of rounded or flat form, convex beneath, of soft tissue, more or less tenacious, large pored and with great orifices; and 2nd, those of concave, or cuplike form, having the oscules slender like hair, and the pores very fine in the interior. Sponges are found abundantly in tropical waters generally, and gradually decrease in numbers towards the colder latitudes, till they become extinct. They vary much in shape in the same species, some beautifully shaped like a vase, others semi-cylindrical, others nearly flat like an open fan; some are branched like the opened fingers of the hand, and are called glove sponges; and, in others, only one branch, somewhat like a club. These differences are due, as far as known, to the fact that the first-mentioned are found in deep water, and grade as described to the last, which grow in shallow water.

In the Mediterranean Sea sponges are not found below thirty fathoms, and in the West Indies and United States seas the same, although not fished over five fathoms. Tropical or sub-tropical seas are required for their production, and they acquire their greatest development in the number of forms and species in the West Indian seas. There the fishing is principally carried on with

a sort of hooked fork on a long pole. The greater part of the Bahama fishery is accomplished between the depth of three and twenty feet, from boats belonging to some larger craft, and manned by two men. The process of preparation is not as careful as in Europe, owing to the greater coarseness and cheapness of the specimens. The bases are clipped off, trimmed with shears, and packed in pressed bales for shipment to New York and England, while the coarser kinds and clippings are used extensively for stuffing mattresses, etc., in the place of hair.

The commercial grades coincide very closely in America and Europe. The grades are glove sponge (*spongia officinalis*); subspecies *Tubulifera*, wool sponge (*spongia equina*); subspecies *gossypina*, and yellow or hardhead (both under the name of *spongia agaracina*, subspecies *corlosia*). These correspond with remarkable accuracy to the three principal grades of commercial sponges in Europe, which are bath sponge (*spongia officinalis*), the horse sponge (*spongia equina*); and the Zimocca sponge (*spongia agaricina*). This result, in which three species appear on both sides of the Atlantic as representing alone the marketable quantities of the genus *spongia*, becomes of double interest when these varieties or local species are compared with each other. It is then found that the aspect of the surface is closely similar in each of the three—that subspecies *Tubulifera* represents *spongia officinalis*; subspecies *gossypina* offsets *spongia equina* in the same way; and lastly, subspecies *corlosia* has the same relation to *spongia agaricina*. That it is not the result of an artificial arrangement, we see convincingly from their similarities of surface and aspect being precisely the same as those which experience has led to adopt in the designation of species in this group, and secondly their differences can be accounted for by the difference in habitat, and are of varietal and not of specific value, according to the accepted use of the term species.

The whole group of *Keratosa* is confined to seas in which the differences observable between the winter and summer isotherms are not excessive. None are found north of Cape Hatteras and Bermuda. On the Pacific shore, Southern California and Chili are the extreme points so far known. The poorest variety of the Mediterranean sponge is always better for domestic purposes than the best corresponding American varieties, being finer, firmer and more elastic. About 500 vessels are employed in the Bahamas sponge trade, 3,000 men find employment and nearly 30,000 stg. are annually circulated in the Colony. The great sponging grounds lie to the E. W. and S. of New Providena. The process of cleaning the sponge there is very simple. It is kept on the decks until it is quite dead when it is thrown into a "crawl" made for the purpose, through which the tide flows, and left to soak for 4 to 6 days, when it is beaten with a flat piece of stick, and then becomes quite clear.

A few years ago the practice was to bury the sponge for 20 days, at which time the gelatinous animal matter was destroyed, or eaten away, by the insects that swarm in the sand. It is now universally acknowledged that sponges belong to the animal kingdom, and are an aggregate of cellules built up by gelatinous polypi, similar to those which construct madreporæ, (porites) and other polypifers. When the sponge is first gathered at the bottom of the sea, it is covered with a black but transparent gelatinous substance, resembling vegetable granulations, among which microscopic white and oviform bodies may be distinguished. These are the larvæ destined to perpetuate the species. When arrived at maturity they are washed out by the sea water which flows incessantly through the sponge, when they swim along by the aid of vibrating cilia, or hairs, with which they are provided, until they reach a suitable rock, to which they attach themselves, and there commence a new life. This emigration of the larvæ from the parent sponge occurs about the end of June and the beginning of July. The Austrian government has adopted the system employed by Dr. Oscar Schmidt, of the University of Gratz, in artificially producing and rearing bath sponge on the coast of Dalmatia. This was based on a well known fact that several families of Zoophytes have such great powers of reproduction, that a portion of one will grow and form an entire new body, and Dr. Schmidt's process was to cut the sponge into pieces, fasten each piece to a pile, and immerse it on the sea, when they grow, and eventually a spherical sponge is obtained. Sponges are said to be grown on the Florida coast in imitation of the manner of Schmidt.

Mr. Pearce then went through the sponge trade of the Ottoman Islands, and of Bengazi, Mandruha, Syria, Cyprus, Crete, Rhodes etc—with the number of boats, and men, and capital employed—the gathering being by means of a trident, and "arth"—a kind of dredge, similar to that used in taking oysters; the men employed being Greeks, who employ a tin tube about 15 inches in diam. and 24 inches long with a thick piece of glass at the lower end to explore the bottom of the sea, and then with a harpoon entangle the sponge and draw it from its bed. The Greeks will hold 3 or 4 harpoons in their hands, and send one after the other in rapid succession, and with great velocity and precision so that one has scarcely disappeared below the surface before the next strikes the upper end and adds to the force of propulsion, the third in the same way striking into the second, and so on. Neither the Arabs nor Sicilians avail themselves of the use of the harpoon or the wave tube.

Mr. Pearce had a number of samples, typical and otherwise, of the finest Turkey cup, bathing, zimocca, surgeon's sheepswool, white reef, albaco velvet, dark reef, boat, hardhead, grass, yellow and glove which were shown and explained, and at the close of the



lecture, which occupied an hour and a half, he exhibited a large number of microscopic slides of spicules and gemmules of sponges, some very beautiful and all instructive, with spicules of Zoophytes. A very pretty specimen of stellate forms in the *Nuphea advena*, (yellow water lily) was shown, mounted in glycerine, these forms being, on the authority of Prof. Ramsay Wright, called Idioblasts, and were first discovered by Tournefort in 1690.

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## Editorial.

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### ELECTION OF THE NEW COUNCIL.

Our readers are reminded that nominations for the Council will be received by the Registrar from June 4th to 14th, after which the list will be made up, and the nominees notified. Should no answer be received within five days the Registrar will assume that they intend to be candidates.

A list of those entitled to vote, which will comprise all who up to June 15th may have paid their fees for the current year, will be published at that date, and will appear in the July number of the JOURNAL. Should anyone desire a copy of the list before that time he may, doubtless, obtain it by addressing the Registrar.

The election will take place on Wednesday, July 4th. The voting papers, one of which will be sent to every member in good standing, must be mailed so as to be returned by noon of the day of election.

We have many times urged the advisability of selecting councillors so as to represent, as equally as possible, the different districts in which members reside, and to this end again publish a list of electoral divisions of the Province :—

Ottawa	district, now unrepresented.
Kingston	“ has now two representatives.
Peterboro	“ has now one representative.
York	“ “ “ “ “
Toronto	“ has now four representatives.
Simcoe	“ has now one representative.
Wellington	“ has now three representatives.

Hamilton district now unrepresented.

Niagara       "       "       "

Oxford       "       "       "

London       "       has now one representative.

Western       "       now unrepresented.

It will be noticed that there are twelve divisions, while thirteen members have to be elected. This is on account of two being allotted to Toronto, as more than one-sixth of the druggists of the Province reside in this city. At the time this division into districts was made out, the number of druggists in each was about equal, and it is not likely that during the ten years which have elapsed that the proportion has been materially changed.

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### THE NEW LICENSE ACT AS AFFECTING DRUGGISTS.

The Dominion Act, which has just received its last and somewhat hasty reading, contains a Section (81) of interest to our readers, inasmuch as it affects the sale of liquor for medicinal purposes. It will not, however, effect much change in the present arrangement, as the clause is modelled closely after the Provincial Act now in force here.

We have not been able to obtain a copy of the Bill as amended and therefore reproduce the section referred to, as printed for the first reading. It is said that this section was not altered.

The definition of the term "liquor" has in this Act been somewhat enlarged, and is held to include "all spirituous or malt liquors, and all combinations of liquors and drinks, and drinkable liquids which are intoxicating."

The following portion of the Act relates to the sale of liquors for medicinal purposes, and, as will be seen, the privileges now accorded to registered druggists under the Pharmacy Act will be continued under the new law."

"81. The said sections numbered — and — of this Act shall "not prevent any chemist or druggist, duly registered as such "under and by virtue of *The Pharmacy Act* of the Province of "Ontario or any similar Act in force in any of the other Provinces, "from keeping, having or selling liquors for purely medicinal purposes, but no sale shall be made in packages of more than six

"ounces at any one time, except under certificate from a registered medical practitioner, and it shall be the duty of any such chemist or druggist to record in a book, to be open to the inspection of the commissioners or inspector, every sale or other disposal by him of liquor; and such record shall show, as to every such sale or disposal, the time when, the person to whom, and the quantity sold, and the certificate of the medical practitioner, if any, and in default of such sale or disposal being so placed on record, every sale or disposal shall, *prima facie*, be held to be in contravention of the provision contained in the said sections of this Act."

"Provided always that no person authorized to sell liquors, as provided by this section, shall allow any liquors sold by him or on his premises to be consumed within his shop or the premises of which the shop forms part."

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#### ANALYSIS OF DRUGS IN TORONTO.

Dr. Ellis, the city analyst, has been turning his attention to the drugs kept in pharmaceutical establishments here, and his last report to the Inland Revenue Department contains the result of twenty-three analyses of articles obtained from leading druggists, comprising iodide and bromide of potassium, cream of tartar, bicarbonate of sodium, powdered acacia, and powdered rhubarb.

In all cases save one, the drugs were reported pure. In this instance, that of a sample of powdered rhubarb, it was stated that about fifty per cent. of flour was found, but, from conversation with Dr. Ellis, we learn that there is some doubt about the correctness of his conclusion, and the analysis is being repeated.

The examination of rhubarb is, at best, a matter of considerable difficulty, as shown by the prize essay of Mr. Hayes, of Philadelphia, of which an abstract appeared in the March journal. This author holds that of all the methods he tried, none were found to be of much value save that in which the estimation of the cathartic acid was made the object. However, in adulteration so gross as that reported to have taken place, the detection of starchy matter in such great excess would be easily enough accomplished, but we think that so large a proportion of flour would render the powder too light in color to be at all saleable without some strong

coloring were also added. The admixture of flour is, moreover, now a days, very uncommon, cheap grades of powder being made from inferior root.

These considerations, taken together with the doubt expressed by the analyst, point to an error, which, in justice to the druggist concerned will, we trust be shortly cleared up.

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### ALUMNI ASSOCIATION.

A meeting of those interested in the formation of an Alumni Association, was held on May 14th at the rooms of the college. There was a good attendance and some of the initiatory steps towards organization were taken up, and the opinion of the meeting expressed as to the main points to be embodied in the constitution and by-laws. Mr. M. Macpherson was appointed secretary *pro tem.*, and committees were struck for performing preparatory work. It was decided that those eligible for membership should be all who hold the diploma of the college, by examination, and the officers should be chosen from the members. Apprentices of one years' experience are to be admitted as "associates," but shall not be eligible for office, though they shall be allowed to vote. The meeting was adjourned until Friday, June 1st, when the committees are to report, and the draft of by-laws will be discussed. It is hoped there will be a good attendance.

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### NOTICE TO STUDENTS.

The twenty-fifth examination under the direction of the College will commence on Tuesday, June 19th, and three following days, in the College Building, corner of Scott & Wellington streets. Candidates must enter their names, and send in the fee of four dollars, on or before June 5th, otherwise they will not be received.

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LOSS OF WEIGHT OF QUININE.-The examination of German quinine, referred to previously, showed the sample to contain 16 per cent. of water.

**PILL COATING, W. M. R., Wroxeter,** will find in back numbers of the journal, frequent references to the methods for coating pills with gelatine. On the small scale this is accomplished by impaling the pills on pins, preferably set in a small frame, and dipping them into a strong and hot solution of gelatine—Cox's answers best—allowing them to dry and removing from the needles. On a larger scale the pills are dried, more or less, stuck on the needle frame and dipped into the gelatine solution, being cooled rapidly and dried by a blast of ice cold air.

**TESTING APOTHECARIES' WEIGHTS.**—A few weeks ago a reporter connected with one of the Toronto papers, who was rather hard up for an item, went the rounds of the city drug stores with a gold ring, which he requested to have weighed, so as to detect any variation in the appliances used to dispense poisons. None was discovered, however, the results agreeing in all cases, save one or two, which were due to approximate weight being given, as the clerks who weighed the ring did not understand that exact weight was required, and consequently did not take any particular care in their weighings or answers.

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## Editorial Summary.

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A CORRESPONDENT of the *Pharm. Jour. & Trans.* put up a prescription containing a drachm of chloride of potassium in four ounces of Parrish's chemical food, which was sent to the patient, but, next morning returned by the physician, as it was perfectly decolorized, a result which is attributed to the formation of secondary chlorine compounds.

THE *Philadelphia Med. & Surg. Reporter* contains a notice of an outbreak of diphtheria among a barnyard of fowls, attributable to infection from the sweepings of a room in which some affected children were confined. It has been remarked before that a disease is prevalent amongst domestic birds that bears a close analogy to diphtheria.

PONGAMIA OR KURUNG OIL, derived from the seeds of a tree growing in India and other eastern countries, has been recommended as an external application in pityriasis and other skin diseases attended by the growth of a fungus. Dr. Dymock, of Bombay, says the oil is a better remedy than acetic acid, and does not discolor the skin as do iodine and goa powder.

WHETHER the following formula furnishes a product equal to that for which children "cry for more," we cannot say, but, at all events, it is highly recommended by a Belfast writer in the *Lancet*; castor oil and glycerine, of each a drachm; tinct. aurantii, twenty drops; tinct. senega, five drops; cinnamon water, half an ounce; make an emulsion.

IN commenting on the use of vaseline for making ung. hydrarg. nitratis, several members of the North British Branch of the Pharmaceutical Society, expressed at a recent meeting the most marked dissatisfaction at the trials they had made with this newly recommended lard substitute. One member said that he had no hesitation in saying that the method with vaseline was thoroughly unworkable.

A WRITER in the *Phila. Med. & Surg. Reporter* cites a case of vomiting in pregnancy, in which oxalate of cerium, Fowler's solution, ingluvin, and other ferments, had been unsuccessfully tried, as also dilatation, application of caustic to the os and cervix, sinapisms, hypodermic injections, ether spray to the spine, and injections of beef tea, per rectum. A saucerful of pop corn, with a little salt, was at length tried, with the effect of putting an end entirely to the trouble.

THE *Quinologist* contains a translation of a paper from *Pharm. Handelsblatt* in which reference is made to the practice of making spurious red bark out of ordinary yellow cinchona by washing with a dilute solution of ammonia. The fraud may be detected by making an infusion with hot or cold water. True red bark gives a liquid of a slight reddish brown, but the infusion from the spurious bark is of a deep rich wine color. Nessler's test for ammonia may also be used.

FROM experiments made by Mr. Henry C. Maisch, (*Am. Jour.*

*Pharm.*) it appears that the addition of chloride of sodium to assist the solution of iodine in preparing the tincture does not result in the formation of any chemical compound, but that its action is purely mechanical. If absolute alcohol is used for preparing the tincture, solution is retarded by the addition of common salt, but, with alcohol of pharmacopœial strength, the iodine may be dissolved more speedily if common salt be added in quantity equal to one-half the weight of the iodine.

DR. W. SIEMENS, of Berlin, in a communication to a German journal, respecting the late fire in the Provincial Parliament Buildings at Quebec, says that it is quite possible, as supposed, that the fire originated with the electric light fittings. He thinks that many companies now engage in electric lighting without the requisite scientific knowledge or experience. By employing wire too small for the current heat may be produced sufficient to set fire to contiguous woodwork, and the lamps themselves, if improperly placed, may become dangerous.

THE great popularity of lime juice during the past two or three seasons, and the probability of a continuance of public favor have led some persons to inquire whether it is altogether wholesome. The question has been raised in the London *Lancet*, and one writer maintains that the anaphrodisiac effect, firmly believed in by sailors, has some foundation of truth. This writer—a surgeon in the mercantile marine—says that he experimented with the juice for a month, taking no stimulant whatever, and found it to act as Jack maintains it does. This effect is ascribed by Dr. Berdoe to the salts of potassium, which, when continued in use, impair the quality of the blood and lower the system generally.

THE mullein plant, *Verbascum Thapsus*, has for a long time held a good reputation in Ireland and Scotland, as a remedy in consumption. Recent experiments by Dr. Quinlan, in St. Vincent's Hospital, Dublin, confirm this belief. A number of inmates in that institution were treated with the domestic decoction, made by boiling an ounce of the leaves, for ten minutes, in a pint of milk, straining and administering twice daily, warm, with or without sugar. Cod liver oil, koumiss, or other weight increasers, were not used. In the early stages of the disease the weights of the

patients increased, and, in the later stages, the cough and dyspnœa were much relieved, while diarrhœa was completely checked. The experiments are being continued.

WE have lately heard a great deal about the alleged beneficial effect of the electric light on vegetation, but, according to P. P. Deherain, who conducted a series of experiments at the late electrical exhibition, in the Palais d' Industrie at Paris, the results arrived at do not corroborate but rather contradict the statement. The conclusions of M. Deherain are as follows: (1) The electric arc-light emits radiations which are injurious to vegetation; (2) Most of these radiations are arrested by colored glass; (3) The electric light emits radiations powerful enough to maintain mature plants in vegetation for two and a half months; (4) The beneficial radiations are not sufficiently powerful to cause the growth of germinating seeds, or to allow of the maturation of fruit in older plants.

THE gases evolved during the conversion of grass into hay was made the subject of a paper read by Dr. Percy Frankland and F. Jordan, at a recent meeting of the Chemical Society of Great Britain, who found the principal product to be carbonic acid gas, with nitrogen, and traces of oxygen. The grass undergoes rapid oxidation by the oxygen of the air, but if this is absent, the oxidation is at the expense of the oxygen in combination in the grass. Grass kept under water evolves five times as much gas as when without that addition, and, in this condition, is probably similar to grass preserved by ensilage. A notable quantity of hydrogen is also given off, due to lactic fermentation, induced by bacteria. Acetic, lactic, and other acids are found in the water. If carbolic acid, or corrosive sublimate, be dissolved in the water these changes do not take place.

CORN SILK, which a few years ago was proposed as a remedy for catarrh of the bladder, and similar diseases, and which has been since successfully used, may, according to G. W. Kennedy, (*Am. Jour. Pharm.*) be best presented for administration in the form of a fluid extract and syrup. The corn silk, which should be green, and fresh, must be cut into small pieces, mixed in a mortar and beaten to a pulp with a menstruum composed of one part of



glycerin and four of diluted alcohol. The mass is then transferred to a percolater, and finished in the ordinary way, diluted alcohol being used after ten per cent. of the weight of the drug of glycerin has been added. The weight of the extract should be equal to one half that of the fresh silk. The dose for an adult is from half to one drachm. A syrup, of which the dose is one to two drachms, may be readily prepared by taking twelve parts of fluid extract and diluting with syrup to one hundred parts.

M. CONROY, in a paper read recently before the Liverpool Chemists' Association said that a large quantity of the foreign insect powder imported, is made from the expanded flowers, and though of a fine yellow color, is of much less value than that made from the closed flowers. In the case of the former the heads have sometimes altogether lost the active florets and are consequently very inferior in strength. Both cultivated and wild varieties are now in the market but the latter are much the best, and bring a higher price, on account of their energetic action. In order to meet the taste of the trade English drug grinders have had to color up the powder made from the dull, but active closed flowers, with chrome yellow, or fustic. The difficulty of which Mr. Conroy complains exists also in this country, but our drug grinders have not catered to the market by brightening up their powders by means of any foreign substances, although the bright yellow powder obtained from New York has found favor with those who place appearance before quality.

ACCORDING to Mr. Wiegand, (*Am. Jour Pharm.*) hydrobromic acid may be best prepared by the following method : Having a flask fitted with a cork, which is perforated to receive a tube reaching just below the cork and rendered tight by waxing it, connect it by means of a piece of gum tubing with another tube bent at right angles ; let the lower end of this tube dip to the bottom of a vessel which is shaped like a glass percolator, and, in fact, a glass percolator is the best for the purpose and this is closed at the bottom with a rubber stopper and fitted with a close-fitting cap, through which the bent tube passes, and also another to prevent the gas from blowing off the cap. When these arrangement are made, a quantity of sulphide of iron is placed in the flask with some diluted sulphuric acid ; this will

supply the hydrogen sulphide. The bromine and water having been placed in the percolator, the gas is permitted to pass through it until all the bromine has been converted into hydrobromic acid, which will be indicated by its loss of color and of the peculiar odor of bromine ; the solution is then filtered from the sulphur and concentrated to the specific gravity of 1.077, which corresponds with a ten per cent. solution, this being the strength indicated by the Pharmacopœia of 1880.

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## PHARMACEUTICAL ASSOCIATION OF MANITOBA.

### REGULAR SEMI-ANNUAL EXAMINATION.

The regular semi-annual examinations of the Pharmaceutical Association of the Province of Manitoba were held on the 18th of April in the rooms of the Association in Winnipeg. The examiners were Messrs. Wm. Whitehead and W. J. Mitchell. Previous to this examination a circular was issued by the Registrar and forwarded to every druggist in the province calling upon all apprentices and clerks to appear at this examination and become registered as "certified apprentices" and "certified clerks" under the provisions of the Act. In response quite a large number attended and the following were successful : Chas. H. Cranston and Donald W. McDonald, Winnipeg ; Robert T. Butchart, Rapid City, passed the preliminary examination and were registered as "certified apprentices." M. McLellan, J. H. Fraser, Fred. C. Van Buskirk, Jas. H. Boyd and J. H. Duncan, Winnipeg ; Albert E. Munson and John Stork, Portage la Prairie ; J. P. O. Allaire, St. Boniface, passed the "minor" examination and were registered as "certified clerks." The list of registered clerks now includes every clerk in the city of Winnipeg and most of those elsewhere in the province. A few, it is believed, still remain unregistered, but it is the intention of the Council to take steps to secure their registration also. Several candidates applied for the "major" examination for registration as members, but failed to produce the necessary evidence of qualification, and were consequently not allowed to present themselves. This examination is the first at which apprentices and clerks have been required to appear. The exercises in which the candidates who presented themselves were tested, were those of translating prescriptions, recognition of drugs and chemicals, and especially of poisonous drugs ; doses, antidotes, etc.

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## Correspondence.

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### ALUMNI ASSOCIATION.

#### *Editor Pharmaceutical Journal.*

SIR,—I was surprised upon reading your editorial on the proposed Alumni Association, in this month's journal, to find the credit of the originating and suggesting the advisability of forming such an association, to a gentleman whom I for one, wish not to deprive of any credit justly his due, but at the same time, I think that if any credit is to be awarded, that such award should be given to the one justly deserving it.

The gentleman to whom I refer is Mr. George Hodgetts, our indefatigable Registrar, who, I believe, was the first to refer to the subject on the occasion of the last college supper, and whose words Mr. Gregory indorsed subsequently in the course of his speech. And further, I believe that some few years back, Mr. Hodgetts, at the request of several graduates of the College, took the time and trouble to collect information from various Alumni Associations in the United States, but from apathy shown by several in your city, the subject was allowed to drop.

In concluding, I would say as a graduate of the O. C. P., that the scheme will have, I am sure, the support of the greater number of our alumni.

Yours,

C. M. S. THOMAS.

Amherstburg, May 11th, 1883.

NOTE BY EDITOR.—In referring to Mr. Gregory as the originator of the Alumni Association, we spoke from memory, and to the best of our recollection now, that gentleman first took up the subject at the students' dinner, and Mr. Hodgetts followed very strongly in the same strain. It may have been otherwise, but we are sure that neither gentleman will feel aggrieved however the matter is arranged. It is true that an attempt was made some years ago to form an association of this kind, and it resulted in the organization of the Ontario Assistants' Association, which was, however, almost altogether confined to Toronto members. The first election was held on Sept. 6th, 1876, and the society flourished for about a year, when it declined, principally owing to the removal of the secretary to a Government position at Ottawa.

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#### *To the Editor of the Pharmaceutical Journal:*

In reading the letter of "one who has worked hard for his diploma," in your last issue, I must say I heartily endorse his sen-

timents, especially the latter one, relative to a representation on the council of the large body of members who have been licensed by examination.

With all due respect to our seniors, who have made us what we are, we can now very reasonably hope to expect representation of the younger ones, seeing our numbers have increased so, and some years have passed since incorporation. I am fully satisfied that some of our most venerable members, in fact, I think all of them, would welcome an infusion of younger blood in the council.

I shall deem it my privilege to nominate some of such members at next nomination, hoping the same will receive a fair number of votes; but shall hope old members will not think they are held in fault, for I think they have served us justly and excellently.

Yours truly,

T. A. HEWITT.

Thornhill, May 11th 1883.

## Practical Formulæ.

**SOLIDIFIED TEA.**—One hundred grammes of ground sugar and 10 grammes starch sugar are boiled with the quantity of water required for solution, until the mass becomes tenacious, but yet remains transparent. After cooling, 50 grammes of tea, previously mixed with 50 grammes of dry sugar, are added. The plastic mass is pressed into moulds, and when solidified forms the preserved tea.—*Scientific American*.

**SOLUBLE GELATINE BOUGIES.**—J. C. Martin, apothecary to the New York Hospital, contributes the following formula to the *Druggists' Circular*. He has prepared a great number of bougies after these directions for use in the hospital, and they have given complete satisfaction. Take of the best French gelatine any desired quantity, macerate it in cold water until thoroughly softened. Press out as much of the water as possible, and transfer the gelatine to a water bath. Add glycerine in the proportion of 4 parts by weight to 5 parts of the gelatine. Heat until the gelatine is dissolved, and after allowing the mixture to cool somewhat, add the medicinal ingredients. Then, having well oiled the pill machine, pour the mixture, which should be very thick, into the grooves of the machine, and also the cutter, completely filling them. By pressing the cutter on the machine the half-cylinders are joined together, and the excess of gelatine is squeezed out. The cylinders will now be found perfect, and can be taken out and the edges trimmed off. If they are desired of a greater length than

the machine will cut, two or more may be joined by gently heating and pressing them together for a few seconds. Any degree of hardness may be obtained by varying the proportions.

**ACTION OF SALICYLIC ACID UPON THE SKIN.**—Dr. Unna, in *Monatshefte für Dermatologie*, relates his experience with this drug. It is a sure remedy for the removal of the normal or pathological epidermis without pain, in a whole, non-desquamated membrane. It would be interesting to determine whether such an action is caused through the medium of the acid upon the epidermis itself. The displacement always takes place in the epidermis and is deeper the stronger the concentration of the acid and the denser the epidermis. The author has never seen a wet surface after the removal, but one covered with so small an epidermis that its shiny surface seemed keep red, and proved very painful to the touch. In all kinds of callosity, with or without papillar hypertrophy, in syphilitic and non-syphilitic psoriasis of the volar surfaces of the hands and feet, in aggregations of squamæ of every source, salicylic acid is the most pleasant and surest keratolytical remedy, as it is inodorous, painless, and colorless, and does not irritate the surrounding tissues. The total removal of the epidermis can only take place with the contemporaneous use of other substances, which soften the epidermic cells. The collodium of salicylic acid is an efficient remedy. The application of a ten per cent. ointment with a gutta-percha covering acts well also. But evidently the simplest application of gutta percha tissue covered with salicylic acid ointment of five to twenty grams, according to the thickness of the horny layer, is the most efficacious. The bandage lies undisturbed for four to eight days, when it can be taken off like a glove. Salicylic acid ointment is therefore the best corn-plaster.—*Druggists' Circular*.

#### USE OF SULPHUR IN ALOPECIA.

Sulphur ointment is suggested as a simple remedy for *Bacterium decalvans*, to which Dr. Thin attributes alopecia areata. In a number of cases described by Dr. Thin in the *British Medical Journal* (p. 784) the application of this ointment was found to result in preventing the spread of the disease, which it cures, a growth of down taking place within a month after commencement of the treatment. This action of sulphur may possibly explain the apparently beneficial results obtained by the use of various hair lotions containing sulphur. Dr. Thin, however, considers that the fat mechanically prevents the growth of bacteria on the surface of the scalp, while the sulphur acts destructively upon them. If further confirmation of these results be obtained, it seem probable that sulphur pomade may in future become a regular article of stock for the pharmacist.—*Pharm. Jour. & Trans.*

# Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor (53 Front Street, East) not later than the 25th of each month.

## ASSISTANTS WANTED.

W. Colcleugh, of Mount Forest, wants an assistant and sound telegraph operator. One with a knowledge of keeping Express books preferred. Duties to commence about July 1st.

EXPERIENCED ASSISTANT of good address, to take charge of retail business. State salary required and send references to Wilson Bros., Kingston, Ont.

## ARTICLES WANTED.

SECOND HAND PRESCRIPTION CASE, with set of Show and Stock bottles. Address, W. Colcleugh, Mt. Forest.

JOURNALS to complete fyle. Vol. VI., No. 1. James Mills, St. Catharines.

## BUSINESS WANTED.

Messrs. T. Hurdon, Ridgetown, and T. G. Whitfield, Whitby, are both open to offers to purchase businesses.

## SPECIFIC ARTICLES FOR SALE OR EXCHANGE.

JOURNALS, 5 cents each, if lot taken, freight paid.

Vol. V., 1, 2, 2, 3, 3, 5, 5, 6, 6, 7, 7, 8, 8, 9, 9, 10, 10, 11, 12.

Vol. VI., 1, 2, 3, 4, 5, 7

Vol. VII., 1, 2, 3, 4, 7, 9, 10, 11, 12.

Vol. VIII., 1, 2, 3, 4, 5, 7, 8.

Vol. IX., 9, 10, 11, 12.

Vol. X, complete.

Vol. XI., complete.

Vol. XII., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

Vol. XIII., 1; Total 80. \$4.00. H. McPhail, 294 King William Street, Hamilton, Ont.

## SPECIFIC ARTICLES FOR SALE.

(Continued).

### JOURNALS—

Vol. IX., Nos. 1, 2, 4, 8, 12.

Vol. X., Nos. 1, 5, 6, 8, 9.

Vol. XI., Nos. 2, 8, 9, 12.

Vol. XII., Nos. 3, 4, 5, 6, 7, 8, 9, 10.

James Mills, St. Catharines

COPPER STILL, 5 gals. capacity, with worm and furnace stand; also 3 Acid Pumps, new, at reasonable figures. Address, Box 427 Brantford, Ont.

## ARTICLES FOR SALE.

SODA FOUNTAIN, G. B. Dow's; ten syrups; in first-rate working order, with copper fountains; terms easy. A. H. Gilpin, St. Marys, Ont.

## SITUATIONS WANTED.

ASSISTANT.—W. H. Davis, 86 Peter St., Toronto, recently from England; has had five years' experience; good references.

MANUFACTURING CHEMIST.—Joseph H. Lowe, 117 Church Street, Toronto, lately from England, has been educated in Owen's College, Manchester, and served in various chemical works, wants an engagement. Is anxious to get employed in full capacity.

ASSISTANT.—W. Fairbairn, 27 Albion Hotel, Toronto, recently from England, is desirous of obtaining a situation in a wholesale or retail establishment.

## BUSINESS NOTES.

Mr. C. D. Daniel has purchased the business carried on for many years by Jos. Davids & Co., 181 King Street East, Toronto. Mr. Daniel formerly managed this business, but for the past year has been in the United States, in charge of the agency for Montserrat Lime Juice.

We are sorry to say that both Messrs. A. D. Weeks and L. P. Stickney were sufferers by the large fire that occurred at Uxbridge, on May 25th. Mr. Weeks' stock was injured by removal, loss about \$1000, covered by insurance, and Mr. Stickney's windows were smashed by the heat from the fire opposite, and the building somewhat scorched.

F. T. Burgess has opened a new business at King Street East, Toronto.

## BUSINESS NOTES—Continued.

C. Chamberlain and C. Scadding, of Leamington, were burnt out by a large fire that took place there.

R. B. Clark, Napanee, is reported to be selling out.

Dr. R. A. Clark has bought out the business carried on by F. Hurdon, Ridgetown.

J. W. Sutherland has purchased the business of T. Copland, Hamilton.

G. B. Smith & Co., Yonge St., Toronto, have sold out to Messrs. Madill & Hoar, formerly employees of the firm. The sale is to come into effect on the 1st of July.

C. McCallum advertises his Winnipeg business for sale, stock about \$18,000; average business, \$4,000 to \$5,000 per month.

HAIR OIL PERFUMES.—The following formulas are given by M. Ad. Vomaska Leitmeritz, of Prague, in the *Pharm. Zeitung*:

No. 1. R. Ol. jasmin.....10 drachms.  
 Ol. caryoph .....15 minims.  
 Ol. bergamot ..... 7½ ounces.  
 Ol. citri cort.....10 drops.  
 Ol. rosmarini ..... 6 "  
 Ol. neroli .....25 "  
 Ol. thymi ..... 1 "

No. 2. R. Ol. bergamot ..... 3½ ounces.  
 Ol. citri cort..... 1 ounce.  
 Ol. petitgrain ..... 2½ drachms.  
 Ol. rosmarini .....15 minims.  
 Ol. lavand .....15 "  
 Ol. citronellæ .....15 "  
 Musk ..... 7 grains.

No. 3. R. Ol. bergamot ..... 1 ounce.  
 Ol. citri cort..... 1 drachm.  
 Ol. rosarum ..... 1 "  
 Musk ..... 7 grains.

Another correspondent recommends the following. To each pound of oil add:

Oil of rose geranium ... ..15 minims.  
 " " verbenæ .....15 "  
 " " thyme .....15 "  
 Musk..... 4 grains.

Rub the musk with four times its weight of white sugar. Digest it in the hair oil, and filter.—*Druggists' Circular*.

## MARKET REPORT.

A fair amount of trade has been done during the past week, but apprehensions are beginning to be felt on account of the backwardness of the season.

*Opium* has been considerably weaker, owing to the expectation of the coming crop being very large. The latest advices include more steadiness. *Morphia* is also considerably lower since our last issue.

*Quinine*.—Very considerable depression was created by the offering of some 33,000 ounces, by auction, at New York. A strong effort was made to bolster up the market by re-shipping 16,000 ounces from New York to Europe, but up to the close the feeling has been weak. At present prices the manufacture must be conducted at great loss, owing to the high prices paid for stocks of bark. Locally, the price has been reduced, on account of change of cash discount.

*Miscellaneous Drugs*.—Tartaric acid and cream of tartar are quite firm, and seem likely to advance. Tartaric would undoubtedly have been dearer but for the low price of citric acid. The latter, which has generally commanded double the price of tartaric, is now sold at the same figure, and as the acid strength of citric is as 92 to tartaric 88, and the flavor is more agreeable it will probably be largely substituted in the manufacture of seidlitz powders, summer drinks, etc. Cubebs are again booming. Castor oil is in large supply at moderate prices. Insect powder and hellebore are selling very quickly. Cod liver oil continues very scarce and dear for brands of known purity. It is said that samples adulterated with hake and seal oils have been put upon the New York market. Ext. licorice and licorice root are quite firm, and gentian has advanced, mercury and mercurials remain low. Yellow and white wax are still scarce, and extreme prices are being paid. Essential oils remain generally very cheap—the exception being oil of cubebs. Chamomile flowers are scarce and dearer, very little of prime quality being available. Gum arabic is improving in price, and camphor is in active demand at moderate prices. Canary seed is slightly lower.

*Spices*.—Cayenne and Chillies are lower. Cloves are also cheaper, African and Calcutta gingers are scarce and dear. Black and white peppers are extremely high. Pimento is lower.

*Paints & Oils*.—Spirits turpentine has declined sharply, and is selling at a loss to holders of stocks now here. Linseed oil is ruling lower than ever before known, and should, at present prices be a good investment. White lead also continues very cheap. The demand this season is almost entirely for the higher grades. Sales of this class of goods have so far been very good, low prices inducing consumers to beautify their premises.



DRUGS, MEDICINES, &c.		§ c.	§ c.
Acid, Acetic, fort .....	per lb	0 12	0 14
Benzoic, pure .....		0 15	0 30
Carbolic, cryst., med .....		1 25	1 50
" com .....		0	0 50
Citric .....		0 80	1 00
Gallic .....		1 60	1 80
Muriatic .....		0 03½	0 06
Nitric .....		0 10½	0 15
Oxalic .....		0 18	0 19
Salicylic .....		2 40	2 00
Sulphuric .....		0 02½	0 05
Tannic .....		1 25	1 40
Tartaric, pulv .....		0 70	0 75
Ammon, carb. ....		0 21	0 24
Bromide .....		0 75	0 90
Iodide .....		4 00	5 00
Liquor, 880 .....		0 20	0 22
Muriate .....		0 14	0 15
Æther, Nitrous .....		0 27	0 45
Sulphuric .....		0 50	0 60
Antim. Nig., pulv .....		0 15	0 17
Tart .....		0 55	0 60
Alcohol, 95 per ct., bbl .....	Cash	2 75	3 00
Arrowroot, Jamaica .....		0 14	0 22
" Bermuda .....		0 45	0 65
Alum .....		0 02½	0 03½
Balsam, Canada .....		0 45	0 50
Copaiba .....		0 90	1 10
Tolu .....		1 00	1 10
Bark, Bayberry, pulv .....		0 18	0 20
Canella, .....		0 12	0 14
" pulv .....		0 20	0 22
Peruvian, yel. pulv .....		0 25	0 50
" red .....		1 60	2 40
Prickly Ash .....		0 30	0 40
Slippery Elm, grd. bulk .....		0 18	0 25
" flour, packets .....		0 28	0 32
Sassafras .....		0 12	0 16
Wild Cherry .....		0 10	0 12
Berries, Cubebs, ground .....		0 95	1 40
" Juniper .....		0 07	0 10
Beans, Tonquin .....		1 40	2 75
Vanilla .....		8 50	10 50
Bismuth, Trinit. ....		2 50	2 60
Carb. ....		2 60	2 70
liquor .....		0 35	0 55
Borax, refined .....		0 17	0 20
Camphor, American .....		0 35	0 37
" English .....		0 48	0 50
Cantharides .....		1 50	1 60
" Powdered .....		1 60	1 75
Chiretta .....		0 30	0 40
Chloroform. Pure .....		1 15	1 75
" D. & F .....		1 90	2 00
" German .....		0 60	0 70
Chloral hydrate .....		1 35	1 60
Cinchonine, Muriate .....		0 47	0 48
" Sulphate .....		0 34	0 42
Cinchonidia, Su phate .....		1 00	1 20
Cochineal, S. G. ....		0 40	0 50
" Black .....		0 45	0 50
Collodion .....		0 75	0 90
Cuttie-Fish Bone .....		0 35	0 40
Ergot .....		0 60	0 80
Extract Belladonna .....		3 10	3 00
Colocynth, Co. ....		1 25	1 75
Gentian .....		0 50	0 60
Hemlock, Ang .....		1 00	1 05
Henbane, " .....		3 00	3 50
Jalap .....		2 50	5 00
Mandrake .....		1 75	2 00
Nux Vom. ....	oz	0 20	0 30
Opium .....	oz	0 90	0 00
Rhubarb .....	lb	4 00	5 00
Sarsap. Hon. Co. ....		1 00	1 20
" Jam. Co. ....		4 00	4 50
Taraxacum, Ang .....		0 65	0 80
Flowers, Arnica .....		0 20	0 25
" Chamomile .....		0 50	0 50
Fuller's Earth .....		0 03	0 04
Gum, Aloes, Barb .....		0 35	0 70
" Cape .....		0 20	0 25
" powdered ..		0 23	0 25
" Socot. ....		0 54	0 75
" pulv .....		0 62	0 80
Arabic. Select .....		0 35	0 45
" powdered ..		0 45	0 55
" sorts .....		0 20	0 22

DRUGS, MEDICINES, &c.—Contd.		§ c.	§ c.
Gum Arabic Sorta, powdered ..		0 20	0 30
Asafoetida .....		0 20	0 25
Benzoin .....		0 50	0 80
Catechu .....		0 12	0 15
" powdered .....		0 20	0 25
Gamboge .....		1 00	1 25
Gualacum .....		0 65	1 00
Myrrh .....		0 45	0 85
Sang Dragon .....		0 65	0 45
Scammony, powdered .....		4 90	5 50
" Virg. ....		12 50	14 00
Shellac, Orange .....		0 35	0 45
Shellac, liver .....		0 35	0 38
Storax .....		0 65	0 50
Tragacanth, flake .....		0 65	1 35
" common .....		0 25	0 65
Galls .....		0 20	0 25
Gelatine, Cox's 6d. ....		1 20	1 25
" French ..		0 50	0 80
Glycerine, common crude ..		0 25	0 28
" 30° .....		0 35	0 38
Prices .....		0 90	0 00
Honey, Canada, best .....		0 22	0 25
Iron, Carb. Precip. ....		0 16	0 20
Citrate Ammon. ....		0 95	1 00
" & Quinine, oz. ....		0 45	1 10
" & Strychnine .....		0 18	0 20
Perchloride Solution .....		0 16	0 20
Sulphate, pure .....		0 06	0 10
Iodine, commrcial. ....		2 25	2 50
Resublimed .....		2 75	3 00
Jalapin .....	oz	0 75	1 50
Kreosote .....	lbs	0 75	3 00
Leaves, Buchu .....		0 27	0 30
Belladonna .....		0 50	0 33
Foxglove .....		0 27	0 38
Henbane .....		0 25	0 25
Horehound .....		0 15	0 25
Lobelia .....		0 20	0 25
" pulv. ....		0 40	0 45
Senna, Alex .....		0 23	0 25
" E. I. ....		0 10	0 14
" Tinnevely .....		0 13	0 25
Uva Ursi .....		0 15	0 17
Lime, Chloride .....	oz	0 02½	0 05
Lime, Hypophosphite .....	doz.	1 90	2 25
Sulphite .....		0 10	0 11
Lead, Acetate .....		0 13	0 17
" Brown .....		0 09	0 10
Leptandrin .....	oz.	0 60	0 75
Lye, Concentrated .....	doz.	0 95	1 25
Liquorice, Solazzi .....	lb.	0 50	0 55
" Martucci .....		0 35	0 37
" Other brands .....		0 14	0 35
Magnesia, Carb. ....	1 oz.	0 20	0 25
" 4 oz. ....		0 18	0 22
Calcined .....	lb.	0 60	0 70
Citrate .....	gran.	0 40	0 75
Mercury .....	lb.	0 60	0 65
Ammoniated .....		1 25	1 30
Bichlor .....		0 80	0 90
Binioidide .....		3 60	4 00
Chloride .....		0 90	1 10
C. Chalk .....		0 40	0 70
Nit. Oxyd .....		1 10	1 30
Morphia Acet .....	oz	2 75	2 95
Mur. ....		2 75	2 90
Sulph. ....		2 85	3 00
Musk, pure grain .....	oz	54 00	.....
" Canton .....		0 60	0 70
Moss, Irish .....		0 10	0 15
Oil, Almonds, sweet .....	lb.	0 60	0 65
" bitter .....		12 00	13 00
Aniseed .....		3 00	4 00
Bergamot, super .....		3 60	4 00
Caraway .....		3 20	3 50
Cassia .....		1 50	2 00
Castor, E. I .....		0 10	0 12
Cedar .....		0 50	0 70
Citronella .....		1 25	1 50
Cloves, Ang .....		2 50	3 00
Cod Liver, Nor., Imp. Gal ..		3 50	4 20
" N. F. ....		2 25	2 50
Croton .....	lb	1 85	2 00
Hemlock .....		0 45	0 90
Juniper Wood .....		0 65	0 00
Berries .....		0 00	2 00
Lavand, Ang .....	oz.	4 50	5158

DRUGS, MEDICINES, &c.—Cont'd.		£ c.	£ c.
Oil, Lavand, Exotic.....lb.	1 40	3 50	
Lemon.....	3 30	4 00	
Orange.....	3 25	3 20	
Neroli, super.....oz.	3 50	5 50	
Origanum.....lb.	0 65	0 85	
Peppermint Ang.....	13 00	15 00	
" Amer.....	3 75	4 75	
Rose, Virgin.....oz	13 00	14 00	
" good.....	7 00	8 00	
Santal Ang.....lb.	9 00	9 75	
Sassafras.....	1 00	1 20	
Verbena.....	1 75	2 00	
Wintergreen.....	4 00	4 50	
Wormwood, pure.....	7 01	9 00	
Ointment, blue.....	0 50	0 60	
Opium, Turkey.....	3 90	4 25	
" pulv.....	7 70	9 00	
Orange Peel, opt.....lb.	0 35	0 40	
" good.....	0 16	0 25	
Pill, Blue, Mass.....	0 55	0 75	
Potas., Bi-chrom.....	3 14	0 16	
" Bi-tart.....	0 38	0 40	
" Bromide.....	0 48	0 55	
" Cyanide.....	0 52	0 55	
" Carbonate.....	0 15	0 17	
" Chlorate.....	0 22	0 23	
" Iodide.....	2 00	2 25	
" Nitrate.....	8 75	11 00	
" Sulphuret.....	0 25	0 35	
Pepsin, Boudault's.....oz	1 20	1 20	
" Morson's.....oz.	0 90	1 00	
Phosphorus.....	0 95	1 05	
Podophyllin.....	0 45	0 50	
Quinine, Howard's.....	2 15	2 20	
" German.....	1 90	2 05	
Root, Colombo.....lb.	0 30	0 31	
" Curcuma, grd.....	0 11	0 15	
" Elecampane.....	0 16	0 17	
" Gentian.....	0 15	0 20	
" pulv.....	0 18	0 20	
" Hellebore, pulv.....	0 15	0 18	
" Ipecac.....	1 75	0 00	
" Jalap, Vera Cruz.....	0 38	0 45	
" Liquorice, select.....	0 13	0 15	
" powdered.....	0 13	0 15	
" Mandrake.....	0 12	0 20	
" Orris.....	0 18	0 25	
" Rhubarb, Trimmed.....	2 25	2 40	
" E. I.....	0 85	0 95	
" pulv.....	1 00	1 20	
" Sarsap., Hond.....	0 50	0 65	
" Jam.....	0 60	0 00	
" Squills.....	0 16	0 20	
" Senega.....	0 95	1 00	
" Spigelia.....	0 55	0 60	
Sal., Epsom.....	0 01½	0 02½	
" Rochelle.....	0 35	0 38	
" Soda.....	1 25	1 50	
Seed, Anise.....	0 12	0 15	
" Canary.....	6 50	7 00	
" Cardamon.....	2 40	2 75	
" Fenugreek, g'd.....	0 03	0 09	
" Flax, Ont, Cash 100 lbs	3 25	0 00	
" Imported.....	3 00	3 00	
" Hemp.....	0 06	0 06½	
" Mustard, white.....	0 10	0 15	
" Saffron, American.....	0 60	0 75	
" Spanish.....	18 00	0 00	
" Santonine.....	5 00	5 75	
" Sago.....	0 08	0 09	
" Silver, Nitrate.....Cash	13 20	14 00	
" Soap, Castile, mottled.....	0 08½	0 11½	
" Soda, Ash.....	0 02	0 05	
" Bicarb. Newcastle..Keg	3 00	3 60	
" Howard's.....lb	0 16	0 16	
" Caustic.....	2 50	5 00	
" Spirits Ammon., arom.....	0 40	0 45	
" Strychnine, Crystals.....oz	1 75	2 00	
" Sulphur, Precip.....lb.	0 15	0 16	
" Sublimed.....	0 03½	0 03½	
" Roll.....	0 02½	0 03½	
" Verdigris.....	0 50	0 55	
" Wax, White, pure.....	0 65	0 75	
" Zinc, Chloride.....oz	0 10	0 15	
" Sulphate, pure.....lb	0 09	0 12	
" common.....	0 06	0 10	
DYE-STUFFS.			
Annatto.....	0 35	@ 0 60	
Aniline, Magenta, cryst.....	2 15	2 50	

DYE-STUFFS.—Continued.			
Argols, ground.....	0 15	0 33	
Blue Vitriol, pure.....	0 06½	0 08	
Camwood.....	0 05	0 08	
Copperas, Green.....	0 01½	0 02	
Cudbear.....	0 15	0 30	
Fustic, Cuban.....	0 02½	0 03	
Indigo.....	0 75	1 00	
" Extract.....	0 25	0 36	
Japonica.....	0 08	0 10	
Lacdye, powdered.....	0 33	0 38	
Logwood, Camp.....	0 02½	0 03	
" Extract.....	0 9	0 12	
" 1 lb. bxs.....	0 13½	—	
" ½ lb. ".....	0 14½	—	
Madder, best Dutch.....	0 12½	0 14	
Quercitron.....	0 03	0 05	
Sumac.....	0 06	0 07	
Tin, Muriate.....	0 10½	0 12½	
Redwood.....	0 03½	0 04	
SPICES.			
Allspice.....	0 20	@ 0 23	
Cassia.....	0 20	0 25	
Cloves.....	0 40	0 50	
Cayenne.....	0 33	0 37	
Ginger, E. I.....	0 12	0 14	
" Jam.....	0 27	0 30	
Mace.....	0 85	1 00	
Mustard, com.....	0 20	0 25	
Nutmegs.....	0 95	1 00	
Pepper, Black.....	0 18	0 20	
" White.....	0 30	0 33	
PAINTS, DRY.			
Black, Lamp, com.....	0 08	@ 0 10	
" refined.....	0 18	0 25	
Blue, Celestial.....	0 09	0 12	
" Prussian.....	0 65	0 75	
Brown, Vandyke.....	0 05	0 06½	
Chalk, White.....	0 01	0 01½	
Green, Brunswick.....	0 07	0 10	
" Chrome.....	0 16	0 25	
" Paris.....	0 22	0 24	
" Magnesia.....	0 15	0 20	
Litharge.....	0 07	0 08	
Red Lead.....	0 05½	0 07	
" Venetian.....	0 02½	0 03	
Sienna, B. & G.....	0 07	0 08	
Umber.....	0 07	0 10	
Vermillion, English.....	0 90	1 00	
" American.....	0 20	0 22	
Whiting.....100 bs	0 90	1 00	
White Lead, dry, gen.....lb.	3 06½	7 00	
" No. 1.....	0 05½	6 00	
Yellow Chrome.....	0 09	0 15	
" Ochre.....	0 02	0 03	
Zinc White, Star.....	0 06½	0 11	
COLORS, IN OIL.			
Blue Paint.....	0 12	@ 0 15	
Fire Proof Paint.....	0 06	0 08	
Green, Paris.....	0 25	0 30	
Red, Venetian.....	0 07	0 10	
Patent Dryers, 1 lb tins.....	0 10	0 12	
Putty.....	0 03	0 03½	
Yellow Ochre.....	0 08	0 12	
White Lead, gen. 25 lb. tins.....	1 80	2 00	
" No. 1.....	1 60	1 75	
" No. 2.....less 7½ ppc	1 40	1 50	
" No. 3.....	1 20	1 25	
White Zinc, Snow.....	2 25	2 35	
NAVAL STORES.			
Black Pitch.....	3 50	@ 4 00	
Rosin, Strained.....lb	3 60	4 00	
" Clear, pale.....	5 50	6 50	
Spirits Turpentine Imp.Gall.....	0 90	1 00	
Tar Wood.....	4 80	5 00	
OILS.			
Cod Imp. Gall.....	0 75	@ 0 80	
Lard, extra.....	1 10	1 20	
" No. 1.....	1 05	1 10	
Linseed, Raw per gals.....	0 68	0 75	
" Boiled.....	0 72	0 80	
Neats-foot.....	1 30	1 40	
Olive, Common, Imp. Gall.....	1 05	1 45	
" Salad.....	2 15	2 20	
" Pinta, cases.....	4 00	4 20	
" Quarts.....	3 25	3 50	
Seal Oil, Pale, Imp. Gal.....	0 50	0 95	
Union Salad.....	1 20	1 20	
Scperm, genuine.....	2 40	2 50	

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## Original and Selected Papers.

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### DISINFECTION.

BY PROFESSOR KOCH.

The *Deutsche Medizinal Zeitung* contains an abstract of a contribution of Prof. B. Koch to the Kaiserlichen Gesundheitsamte, from which we take the following :

In order to estimate the value of any disinfectant, it is of prime importance that we first determine its capacity for destroying the lower organisms and their germs. In testing this ability, we may use the permanent spores of bacilli—in Koch's experiments, the charbon bacilli—for to the present time there has been found no micro-organism with greater vital tenacity. After this it remains to investigate the conduct of the agent towards bodies of less resistance; to the spores of fungus, yeast and bacteria. Third, it has to be shown to what extent the agent will retard the development of germs; and in conclusion the question remains, in what degree of concentration the agent must be used in order to produce its effects within a given period, after the vitality of the septic poison and other important questions in regard to the applicability of the agent have been considered.

Having made many experiments the author finds the following to be true:

Carbolic acid in a one-per-cent. aqueous solution does not in the least affect the power of development in the charbon bacilli; a two-per-cent. solution will diminish the power of germs to multiply after three days; a three-per-cent. solution decreases this power in two days; a four-per-cent. solution greatly diminishes it

in 24 hours and destroys it in three days, while a five-per-cent. solution diminishing it in 24 hours destroys it in two days.

"The results of these experiments," says the author, "were entirely unexpected. We are accustomed to look upon the two-per-cent. aqueous solution of carbolic acid as a sure method of destroying, in a few minutes or even in a few seconds, all kinds of micro-organisms. The surgeon washes his hands in it and rinses his instruments in it, and he believes them perfectly free from all liability of conveying infection, and that he can handle the wounds of his patients without danger to them. These investigations, however, show that when, by accident, charbon spores or some poison as an infectious matter of strong vitality has been allowed to come in contact with the hands or instruments of the surgeon, and has not been removed by some mechanical aid to the water, the addition of carbolic acid to the wash-water will not in the least protect his patient from infection."

Carbolic acid, however, in the strength of a five-per-cent. solution, will prevent the development of the less resisting bacteria. Carbolic acid in the form of vapor at the ordinary temperature is entirely without action, but becomes active when associated with a high temperature. (This is also true of sulphuric acid.) The solutions of carbolic acid in alcohol and oil are utterly inert both against the charbon bacilli and the more easily destroyed bacilli. Carbolic acid is found in composition in the various carbon-yielding substances; e.g., natrium phenol, natrium-sulpho-carbolic, etc., stand on a par with carbolic acid as a disinfecting agent.

Sulphuric acid developed from the burning of sulphur is absolutely powerless against matters containing germs. Bacilli which would be killed within twenty minutes in a closed box will be not all or only very slightly affected by disinfection in a room.

A certain disinfectant action may be obtained by previously moistening objects to which it is applied.

Chloride of zinc surpasses this in that it is an absolute sure disinfectant in the strength of a one-per-cent. solution. This solution will check the development of the micrococcus prodigious after acting upon it sixteen hours, yet it does not altogether destroy it in forty-eight hours. Yet a five-per-cent solution has proved absolutely inert against the charbon bacillus in thirty days.

There are other substances which kill the bacilli, as freshly prepared chlorine water; 2-per-cent. bromine water; iodine water; 1-per-cent. corrosive sublimate; 5-per-cent. sol. permanganate of potash; 1-per-cent osmic acid, within one day; formic acid four days; 5-per-cent. chloride lime; sulphate ammonia; oil turpentine in five days; 5-per-cent. chloride of iron; chloropicric-acid solution in 6 days; arsenic, 1 per cent.; quinine, 1 per cent., in water with HCl; 2-per-cent. hydrochloric acid in ten days; and ether in thirty days.

The following are among the substances which are inert or but slightly effective against the charbon spores: Distilled water, alcohol, glycerine, oil, sulphuretted carbon, ammonia, concentrated salt solution, potassium iodide and bromide, 1 per cent.; acid sulphuric, zinc and copper sulphates, 5 per cent.; alum, permanganate of potash, 1 per cent.; chromic acid, 1 per cent.; chromate and bichromate potash, 5 per cent.; chlorate potash, boracic acid, 5 per cent.; acetic acid, 5 per cent.; tannin, 5 per cent.; benzoic acid, 5 per cent.; benzoate soda, indol, skatol, leucin, 4 per cent.; quinine, 2 per cent., in water 40, alcohol 60; iodine, 1 per cent. in alcohol; thymol, 5 per cent. in alcohol; salicylic acid, 5 per cent. in alcohol, 2 per cent. in oil.

Among the remedies which have the power of checking the development of lower organisms sublimate stands in the lead. It hinders the development of the charbon facilli when diluted to the degree of 1 part to 1,600,000, and kills them in the strength of 1 : 320,000. Then come mustard oil, 1 : 330,000 checks, 1 : 33,000 kills; arsenite of potash, 1 : 100,000 checks, 1 : 10,000 kills; thymol, 1 : 800,000 checks; oil turpentine, 1 : 75,000 checks; prussic acid, 1 : 40,000 checks; 1 : 8000 kills; oil peppermint, 1 : 33,000 checks; chromic acid, 1 : 10,000, 1 : 5000 kills; picric acid, 1 : 5000 kills, but to retard development with 1 : 10,000 has not yet been attained; iodine, 1 : 5000 checks; salicylic acid, 1 : 3300 checks; 1 : 1500 kills; permanganate potash, 1 : 3000 checks; muriatic acid, 1 : 2500 checks; 1 : 1700 kills; camphor, 1 : 2500 checks; eucalyptol, 1 : 2500 checks; borax, 1 : 2000 checks, 1 : 1700 kills; boracic and carbolic acids, 1 : 2250 checks, 1 : 800 kills.

In contrast with the generally accepted views on the subject of disinfection, which look upon as a fixed fact the death of micro-organism—not merely a retarding of their development—and that in a very short time, the above results show that for disinfection the only remedies that are at all worthy of consideration are corrosive sublimate, chlorine, bromine, and iodine, for the 5-per-cent. solution permanganate of potash and osmic acid must be excluded for practical reasons.

Extended investigations show that, for rapidity of action, bromine vapor is superior to chlorine, and still more so when compared to iodine; and it is only in this respect that corrosive sublimate excels diluted nitric acid and oxysulphate of silver. Experiments made for the purpose of determining whether the action of corrosive sublimate upon the blood of living guinea-pigs infected with charbon poison could disinfect the blood, and by its disinfectant powers overcome the disease so as to rescue the animal, resulted negatively. The author does not, however, abandon the hope that at some future time animals can be placed under the influence of antiseptic agents by which the bacilli of charbon in their systems may be overcome or entirely subdued.

J. M. F.

—*Druggists' Bulletin.*

# THE PREPARATION AND COMPOSITION OF UNGUENTUM HYDRARGYRI NITRATIS.\*

BY THOMAS MABEN.

In the course of an investigation in connection with olive oil and its adulterations, several reactions which I have noted seem to throw some light on the causes of the variability in the properties of citrine ointment, as prepared by the official process. These reactions occur in subjecting the oil to the action of a solution of mercuric nitrate in excess of nitric acid, in the presence of heat, and without anticipating what I may, at some future time, submit to you regarding the subject for which the experiments were initiated, I may cite the following results as furnishing some explanation of the causes of the variability referred to.

## *Effect of Acid Solution of Mercuric Nitrate on Olive Oil at Different Temperatures.*

1. When pure olive oil is heated with the mercury solution to 180° F., moderate chemical action takes place, the mixture frothing up to a small extent only, and solidifying on cooling.

2. When the mixture is heated to 212° F. the chemical action is much more decided, the result in general appearance being similar to that in the former case, but with the difference, that a small quantity of a yellow semi-crystalline substance is precipitated.

3. The mixture heated to 300° F. gives very energetic action, the solidified cooled mass presenting much the same appearance as before, but with an increase in the quantity of yellow precipitate.

4. When olive oil adulterated with any of the common seed oils is heated with the reagent, the mixture at 180° F. assumes a reddish colour, due to the action of the nitric acid on the foreign oil; at 212° F., a slate-coloured precipitate; which seems to vary in quantity according to the extent of the adulteration, is thrown down, together with a quantity of the yellow precipitate already mentioned; at 300° F., the quantity of slate-coloured precipitate is increased, but no further change is noticeable.

5. The yellow precipitate is insoluble in ether and alcohol, but is slightly soluble in water, and gives mercurous reactions; it is evidently mercurous nitrate. The slate-coloured precipitate is unaffected by these solvents, but is dissolved by nitric acid, and is apparently mercurous oxide thrown down by the reduction of the mercurial salts in the presence of the foreign oils.

6. A portion of No. 1 treated with ether is found to be entirely soluble; portions of Nos. 2, 3 and 4, similarly treated, are found to be partially soluble only, the precipitates being insoluble.

\*Read at an Evening Meeting of the North British Branch of the Pharmaceutical Society, April 11, 1883., and published in the *Pharm. Journ. & Trans.*

In view of these reactions, there would be no difficulty in our assuming that substantially the same results would follow in the case of citrine ointment, but for the introduction of the new ingredient, lard. Actual experiment has shown, however, that the analogy is all but complete, as we shall find if we compare the *data* already given with the results obtained when the ointment is prepared at different temperatures, results which explain several phenomena that have not, so far as I am aware, been elucidated, while they tend to reconcile the conflicting statements which have been made regarding this preparation.

*Effect of Different Temperatures in the Preparation of Ungt. Hydr. Nitratis.*

A. When citrine ointment is prepared at 180° F. we have a beautiful, somewhat transparent, lemon-coloured ointment, of a soft consistence, and soluble in ether.

B. Prepared at 212° F., the ointment is rather less transparent, not quite so soft, and only partially soluble in ether, a small quantity of yellow precipitate being insoluble.

C. Prepared at 300° F., the colour is the same, but the ointment has a denser appearance, and is much harder. The yellow precipitate is, as in the last instance, insoluble in ether.

D. When the olive oil has been adulterated even to the extent of only 5 per cent., the appearance of the ointment is quite changed. Instead of a lemon colour, it has now acquired a distinct greenish hue, while with a larger percentage of foreign oil, this is still further intensified. The red colour visible in the case of the adulterated olive oil is not now so apparent, it being disguised on the other by the mercurous oxide.

Coming now to the consideration of these facts, there are three points to which I desire to direct your attention, viz., the composition of the ointment, its colour and consistency, and its liability to deteriorate, regarding all of which there is no little difference of opinion.

I. *Composition*.—Pereira states that “by the action of the fatty bodies on nitrate of mercury, the latter is transformed into a yellow subnitrate of the protoxide of mercury, a small portion of elaidate of mercury being also formed.”\*

Christison says the ointment “is believed to be a mixture of oleic and stearic acids, elaidic acid and nitrate of binoxide of mercury.”† Mr. Schacht, in an account of several experiments, says:—“A portion of best ointment treated with a large quantity of ether dissolved entirely. Samples possessing inferior external properties deposited a yellow powder perfectly insoluble in ether, which proved to be nitrate of mercury;”‡ his conclusion, there-

\* *Materia Medica*, 2nd edit., p 769.

† *Dispensatory*, p. 531.

‡ *Pharm. Journ.*, [1], vol. iv., p. 450.

fore, evidently being that *good* citrine ointment contains *no* nitrate of mercury. Mr. Martindale, adopting, with most other authorities, Pereira's view, states that the ointment "contains a complex mixture of basic nitrate of mercury, elaidin, fatty acids in combination with mercury, etc." § These are only a few of the different opinions that might be cited, and the questions seems to turn on this point, viz., Does the mercury in citrine ointment really exist in any quantity as nitrate, as the B.P. name implies, or is it entirely combined with the fatty acids? From the results I have submitted to you it will be apparent that both views may be regarded as being correct, The B.P. directs no definite temperature to be observed, and till it does so pharmacists are left to their own judgment. If one ointment is prepared at 180° F., and another at 212° F., both may be citrine ointment, and excellent preparations, but both cannot strictly be said to be *unguentum hydrargyri nitratis*.

The theory which commends itself to my mind, as accounting for this double result, is that a reaction takes place somewhat after the following manner: The effect of the nitric acid is to resolve the fats into their proximate constituents, viz., glycerine, stearic acid, oleic acid, the latter, according to most authorities, being transformed into elaidic acid. In the presence of the acids mercuric nitrate is, at a low temperature, split up, the mercury uniting with the elaidic acid to form elaidate of mercury. On the temperature being raised this salt is partly decomposed, but the excess of nitric acid being at the same time driven off, there remains only sufficient to combine with the liberated mercury to form mercurous nitrate, which is, as we have already seen, precipitated. Oleate of mercury is partially insoluble in ether, and it is highly probable that the palmitate and stearate will be of a similar nature in this respect, and this has led me to the conclusion that the mercury exists as elaidate, until that salt is decomposed or partially decomposed by the higher temperature.

Perhaps it is too much to expect that this theory will meet all the difficulties of the case, but I submit it to you, as a probable explanation of the reaction that takes place.

If the ointment is prepared at a low temperature the excess of nitric acid will not be driven off. Most of you, if not all, will have observed an acid liquid at the bottom of the shop jar, or even sweating out of the ointment itself. This is certain to be present if the temperature does not exceed 180° F., and even at 212° F. the excess of acid is occasionally not all driven off. Mr. Donovan† complains of this excess in the B.P. preparation from a therapeutical point of view, and we can easily understand that needless irritation will be caused to a tender surface by its presence.

\* *Pharm. Jour.*, [3], vol. xi., p. 912.

† *Pharm. Journ.*, [2], vol. vi., p. 541.



It is thus possible to have two distinct citrine ointments, the one containing fatty acids, elaidate of mercury and mercurous nitrate, the other composed of fatty acids, elaidate of mercury and excess of nitric acid. If we wish to follow Mr. Schacht's idea of a good ointment, we are certain to displease Mr. Donovan by excess of acid; on the other hand, if we eliminate the acid by increasing the temperature we at the same time cause the formation of mercurous nitrate. Further, if it is admitted that the B. P. means the ointment to contain nitrate of mercury in some form it is clear that it ought so to be prepared that it will really be what it professes to be. For these reasons, therefore, it is perfectly evident that the B.P. ought to state the temperature definitely, as until this is done the composition of the ointment is liable to vary, it being quite as likely to be *ungt. hydr. elaidatis* as *ungt. hydr. nitratis*.

II. *Colour and Consistency*.—I have already anticipated, to a certain extent, the remarks that naturally fall under this head, and would simply repeat that at whatever temperature the ointment is prepared, the lemon colour is the same, provided pure oil is used. The only visible difference is that the lower the temperature the more transparent does the ointment appear to be. If the oil is impure, the colour is darker and of a greenish hue, owing to the action that has been already explained. Ointment prepared at a high temperature, say 300° F., is considerably harder than that prepared at 212 F°, or 180° F., though there is little difference between the two latter.

III. *Deterioration*.—If citrine ointment becomes discoloured early, say within a few months, the presumption is that the oil was not pure, always granting, of course, that due precaution had been taken in its manufacture and preservation. This is more especially likely to be the case when the discoloration is homogeneous or regular and the ointment preserves its consistency. We have seen that the mercury is reduced by the action of the foreign oil. This reduction takes place rapidly at a high temperature, but we may justly infer that the same action goes on more slowly at normal temperatures. As an illustration of this, here are two specimens adulterated with equal quantities of the same oil,—10 per cent. rape. The one has been prepared at 180° F., and the other 212° F., and while the former is of a bright yellow, the latter has the characteristic green hue. An ointment may therefore be satisfactory as regards appearance when it is newly prepared; but this is no guarantee that it will not deteriorate, as I venture to assert this yellow specimen will do ere long. This contingency (of impurity) has been very much overlooked in connection with the ointment, and it is quite possible that to it, rather than to unskilful methods of preparation, is referable in many cases its liability to deteriorate. Mr. Schacht's theory was that

the reduction of the mercury was due to the evaporation, in course of time, of the nitric acid; and he proved it so far, by adding acid to a discoloured sample and restoring the ointment to its original appearance. This is correct enough, as far as it goes, because, by adding more acid you merely redissolve the mercurous oxide, and practically re-prepare the ointment; but it does not afford sufficient grounds for the general inference drawn from it. The difficulty lies in the fact that when those adulterated ointments are heated to  $212^{\circ}$  F., discoloration takes place, while this pure ointment retains its colour though heated to over  $300^{\circ}$  F. If, in the former case, all the acid has evaporated, much more must this be true in the latter, yet no discoloration is visible; on the contrary, it is so far as appearance goes, the best specimen on the table.

In concluding this paper, let me say that there should be no difficulty in turning out an elegant and durable preparation by the B. P. process, and I am strongly of opinion that an ointment carefully made with pure oil and good lard, according to the directions there given (interpreting "hot" as at least the boiling point of water), will keep for a very long period indeed, without deteriorating in the slightest. With the exception of this indefiniteness as to temperature, the B.P. formula, which is practically devised by the late Mr. Duncan, is as near perfection as it possibly can be.

In view of a new edition I would suggest that it be made complete in this respect, and that the temperature fixed ought not to be less than  $212^{\circ}$  F.—it might with advantage be even more—so that there may be uniformity, not only in the appearance of the ointment, but, what is of more importance, in its composition.

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IT IS DESIRED TO ASCERTAIN THE SOLUBILITY OF THE OFFICIAL CHEMICALS IN ALCOHOL OF THE SPECIFIC GRAVITY 0.941 AT  $15.5^{\circ}$  C. =  $60^{\circ}$  F., AND AT ITS BOILING POINT. THE METHOD OF EXAMINATION SHOULD BE STATED.\*

BY P. C. CANDIDUS.

In answer to the above query, I would state that the solubility of the chemicals was first ascertained at  $15.5^{\circ}$  C. =  $60^{\circ}$  F. The menstruum was kept in a flask at the required temperature, then the required quantity weighed into a test tube, and a weighed portion of chemical gradually added, the test tube shaken until no more would dissolve, then brought again to  $15.5^{\circ}$  C. If there was an undissolved portion, the largest part of the liquid was poured off, and the balance filtered through a small weighed filter, which was then dried in a drying oven, and then weighed and deducted from the weighed chemical originally used. This, then, compared to the

\* Read at the recent meeting of the American Pharmaceutical Association.

quantity of menstruum and the proportion of solubility determined. Those ascertained at the boiling point presented an easier method, because those ascertained at 15.5 C. served as a guide to a certain extent. The required menstruum was weighed into the test tubes, then heated to the boiling point by means of a water bath, as much chemical added, in several portions, as it would dissolve, the boiling point being maintained.

NAME OF CHEMICAL.	15.5 C. = 60 F.		Boiling Point.	
	Part.	Part.	Part.	Part.
Acidmum Benzoicum .....	1	10	0.9	1
" Citricum .....	1.6	1	1.9	1
" Gallicum .....	1	9	0.48	1
" Oxalicum .....	1	5.8	0.7	1
" Pyrogallum .....	1	1.25	Indefinite.	
" Salicylicum .....	1	20	1	1
" Tannicum .....	1.3	1	Indefinite.	
" Tartanicum .....	1	1.33	1	1
Ammonii Benzoas .....	1	5.5	1	2.14
" Bromidum .....	1	3.25	1	2
" Carbonas .....	1	5.5	0	0
" Chloridum .....	1	6.5	1	4.5
Aluminii et Potassii Sulphas .....	Sparingly.		1	5
Alumen Exsiccatum .....	"		1	6
Antimonii et Potassii Tartras .....	0	0	Sparingly.	
Argenti Nitras .....	1	2.7	1	1
Beberæ Sulphas .....	1.25	1	Indefinite.	
Cadmii Bromidum .....	1	4	1	3
Cupri Sulphas .....	1	30	1	17
Ferri Sulphas .....	1	20	1	6.66
Hydrargyri Chloridum Corrosivum .....	1	7.5	1	3
Iodoformum .....	1	240	1	120
Iodum .....	1	2.66	Volatilizes.	
Magnesii Sulphas .....	1	20	1	7.5
Morphiæ Murias .....	1	48	1	1
" Sulphas .....	1	40	1	1.1
Plumbi Acetas .....	1	15	Uncertain.	
Potassi Acetas .....	2	1	3.17	1
" Bromidum .....	1	7	1	3
" Bicarbonas .....	1	24	1	10
" Iodidum .....	1	2.5	1	1.17
" Chloras .....	1	80	1	8.5
" Nitras .....	1	120	1	2
" Sulphas .....	Not soluble.		Sparingly.	
Quiniæ Bisulphas .....	1	26	Less than its own weight.	
" Sulphas .....	1	240	1	3.5
Sodii Bicarbonas .....	1	120	1	40
" Bromidum .....	1	2.40	1	1.6
" Chloridum .....	1	13.33	1	10
Zinci Acetas .....	1	12	1	1.1
" Sulphas .....	1	24	Forms 2 strata	
Sodii Salicylas .....	1	1.5	1	1

## THE SPONGE TRADE OF THE BAHAMAS.\*

(Report by Consul McLain of Nassau.)

Next to the pine-apple business the sponge trade is the most important industry of the Bahamas, bringing considerable money into the colony, and furnishing steady and lucrative employment to several hundred vessels and several thousand persons.

Forty years ago the gathering and shipment of sponges was practically unknown in these islands. The people found so much more profit and excitement in the business of "wrecking" that the ordinary methods of procuring a livelihood were not in much favor.

Gradually, however, as the erection of light-houses upon exposed points and the substitution of steam for sailing craft lessened the number of wrecks, the colonists began to cultivate the soil and to explore the depths of the sea in the pursuit of wealth.

At first sponges were divided into only two classes, the coarse and the fine, the former bringing about \$5 per cwt. and the latter about double that sum. Sponges are now divided into many varieties, the principal of which known to the trade here are as follows, in the order of their value, the first being the best, viz.: Sheep-wool, white reef, abaco velvet, dark reef, boat, hard-head, grass, yellow, and glove. Of some of these varieties there are several grades designated by numbers, all being useful for mechanical, surgical, and bathing purposes. Bahama and Florida sponges are of about equal value, both kinds being inferior in texture and market value to those of the Mediterranean.

From the opening of the trade in the Bahamas up to the year 1864 the amount of sponges gathered was small, averaging only 3331 pounds per annum, valued at \$26 per cwt. During 1863-'64-'65 the business of blockade-running so engrossed the Bahamians that nearly all legitimate business was suspended, and the sponge industry sank to a low ebb. In the years immediately subsequent to our civil war the trade grew brisker until the outbreak of domestic troubles on the adjacent island of Cuba gave it a check, the Spanish authorities withdrawing the privilege of fishing for sponges upon the Cuban coast, lest the spongers might carry on a contraband trade with the insurgents. In 1878, the insurrection having been substantially quelled, the Spanish consul at Nassau issued over one hundred licenses, at \$25 apiece, to Bahamain vessels to sponge in Cuban waters, and the trade was rapidly reviving when the jealousy of the Spaniards was aroused, and all the licenses were peremptorily revoked. Since then the Bahama spongers have confined operations to their own waters, but with such assiduity that new fields have been discovered, and the yield has materially increased.

\*Druggists' Bulletin.

The vessels employed in sponging are small craft, their average being about ten tons burden, each vessel carrying from six to twelve men. These vessels take on board about six weeks' provisions and start out coasting along the banks and reefs, where the water is shallow, and among the islands, for in such localities the sponges are found. In case of a storm the little craft takes refuge inside the coral reefs or under the lee of an island. The sponges are readily seen growing upon the rocks, reefs, and shallows, for the water is marvellously clear, and they are brought to the surface by means of iron hooks fastened to long poles, or by diving. When first caught they are found to be covered with a soft gelatinous substance, full of life, and as black as tar, the sponge proper being really only the skeleton or the support of this living organism.

The day's catch is spread upon the deck so as to kill this living covering, which in decaying emits an odor by no means as fragrant as that of frangipanni. When a sufficient quantity of sponge has been gathered to warrant it the spongers go ashore, build a pen or "crawl" of stakes at the water's edge, and place the sponges therein, when the action of the tide helps to remove the black covering, the process being completed by pounding the sponges with sticks. Having been cleansed in this manner the sponges are strung upon small palmetto strips, each string containing three or four sponges, being called a "bead," and with this cargo the vessels return to Nassau. A cargo will range in value from \$75 to \$300, according to quality, quantity and demand.

The sales and handling of sponges are substantially controlled by what is known as the "Nassau Sponge Exchange Company, Limited," an organization holding a charter from the colonial legislature, with a capital of £600, and possessing certain privileges. The company has erected a commodious building upon one of the wharves, and here all the sponges are sold, subject to certain taxes and restrictions. No person is permitted to buy until he has become a member of the exchange, under certain conditions, and a seller who attempts to dispose of his cargo outside of the exchange will soon be put under the ban. Sales are made upon every week day, except Saturday, at 11 o'clock a.m., each buyer offering his tender in writing and privately, and he is expected to make some offer for each lot on sale.

As soon as the daily sale is concluded, the sponges are hauled away to the packing yards, where they are assorted and clipped into good shape. They are then put into tubs or vats of lime-water to soak for several hours, and are afterwards spread upon canvas to bleach and dry in the sun. Next they are pressed by machinery into bales about three by two feet in size, each containing 100 pounds, the packages being covered with coarse bagging securely sewed and corded, and are then ready for shipment. All

the work bestowed upon the sponges from catching to shipment, except the purchasing at the exchange, is performed by the native blacks.

There are at present only about a dozen qualified buyers of sponges in Nassau, nearly all of whom buy exclusively for houses in America and England.

The American trade is monopolized by a few firms in New York (through resident agents in Nassau), the leading houses being as follows, viz.: Messrs. A. Isaacs & Co., Mansell, Birnbaum & Co., Raboteau & Moses, Lasker & Bernstein, McKesson & Robins, and Wrightington & Jackson.

The average current market value of sponges in this colony for the past year or two is substantially as follows, which represents their cost on shipboard, viz.: Sheepwool, 75c per pound; white reef, ditto; abaco velvet, 55c; dark reef, 35c; boat, ditto; hardhead, 30c; grass, 20c; yellow, ditto; glove, 15c. These are for the best grades of each variety, and are the average of prices; the absolute prices, of course, changing at times, according to the laws of trade.

Bahama sponges are shipped to the United States and Great Britain, with an occasional lot to Paris. Up to three years ago, Great Britain got the bulk of the trade. Since then the United States has taken a greater part of the sponges. In 1881 the total value of the sponges shipped from these islands was \$150,000, of which \$36,357 worth went to England, and \$113,643 went to the United States. The following figures will show the volume and course of the sponge trade of the Bahamas for the last eight years:

YEAR.	Exports to Great Britain.	Exports to United States.	Total.
1874.....	\$32,500	\$44,000	\$ 76,500
1875.....	42,600	34,400	77,000
1876.....	52,000	35,000	87,000
1877.....	59,300	30,700	90,000
1878.....	69,927	53,073	123,000
1879.....	95,000	70,000	165,000
1880.....	66,000	102,428	168,000
1881.....	36,357	113,643	150,000
1882 (first quar- ter only .....	.....	82,664	.....

As appears above, the first quarter of the present year shows a signal increase in the trade with the United States, the amount shipped during January, February, and March being more than two-thirds as much as the total for the year 1881, which year was itself an improvement over all the preceding ones.

There was no special increase during that quarter in the

shipments to Europe. This sudden increase in shipments to the United States was owing to the discovery of a new and extensive field of sponges near the island of Eleuthera, only 60 miles distant from Nassau, the product of which the American agents eagerly bought up.

The water on the new field is from five to eight fathoms in depth, making the gathering of the sponges tedious and laborious. It is thought that the field is a very extensive one, extending over many miles, and the sponges are, so far as known, all of the sheep-wool or most valuable variety.

The majority of the sponges found up to this time are of an extra large size, and they will not bear cutting to advantage, since the inner portions seem to be very tender. A medium-sized and solid sponge would have been more valuable.

During the last quarter this field was actively worked, but a sudden interruption has occurred, caused by the fact that myriads of small fish called "sailors" have invaded the grassy bottom, stirring up the mud to such a degree as to prevent the sponges from being seen. Old fishermen give it as their opinion that the sponges can be gathered to advantage in this field only during a portion of the year, when the water is still and the "sailors" are absent. If this be true, it will detract somewhat from the value of the new find.

If the colonists could handle and ship the sponges on their own account, as they do with their pine-apple crop, the trade would be of more benefit to the islands; but their control ceases when the sponges are sold at the Exchange, and all subsequent profits after shipment go to the foreign purchaser.

The business of gathering, curing, and packing, however, brings about \$150,000 of foreign capital into the colony every year, which is largely sent to the United States to purchase materials for the vessels, provisions for the men, and for general purchases; and so any increase of the sponge industry will enlarge the amount of goods which the colonists will be able to buy of us. In fact, the trade relations of the Bahamas are now so intimate with the United States, that the prosperity of the former is directly beneficial to the latter; and we do not overstate the truth when we assert that this colony, although politically a "dependency" of Great Britain, is in reality, so far as an increasing profitable trade and commerce is concerned, a "dependency" of the United States. A liberal spirit on the part of our Government, and fair and honest dealing by our merchants and manufacturers, are all that is needed to retain our present trade with the Bahamas, and to materially enlarge the same, as the colony itself develops its natural resources and prospers.

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## NOTE ON ESSENCE FROM GREEN GINGER.\*

BY C. SYMES, PH.D.

The increased use of ginger by manufacturers of mineral waters and others, of late years, has created a demand for a "soluble essence," *i.e.*, an essence which, when mixed with water, causes little or no opacity therein.

Dr. Thresh's scientific investigation of the constituents of this rhizome, particularly of the nature of its resinous constituents, added considerably to our knowledge of its composition. But strange to say, the process devised by him† on the basis of this investigation, for the preparation of a soluble essence did not give (to my mind) very satisfactory results. Indeed, Dr. Thresh has since testified to the superiority of an essence produced by another maker.

It would seem, therefore, that the field is still open for the application either of science, or the results of experience. The contribution I have to offer this evening is a simple, short, and practical one. Many, indeed most, drugs deteriorate by age, whilst some few, such as *Rhamnus Frangula* bark, are said to improve as they grow older, at least to a certain point. Now, it occurred to me, that the nature and properties of ginger, and its behavior towards certain solvents of its active constituents, may not be constant at all periods, and the receipt from Rio Janeiro of a supply of green ginger grown at Santa Catharina, enabled me to make an experiment in this direction. The ginger, of which I have here a sample, occurs in large pieces; it is quite soft, and is not decorticated. Two methods were tried for removing the outer portion; the one simple scraping, the other by first soaking in boiling water. The latter did not appear to possess any special advantage, and by the former it lost fully 15 per cent. of its weight. After a few hours' exposure to the air it was weighed, thoroughly dried and reweighed, when it was found to have lost 65 per cent. of moisture.

Taking a sample of the ginger from which the epidermis had been removed, and which had been surface-dried by exposure for a few hours to the air, I cut it in thin slices, and macerated it for some days with an equal weight of rectified spirit, which, when filtered, yielded an essence possessing a very fine aroma, and which when mixed with water scarcely rendered it turbid in the least degree. It is fairly strong, and could doubtless be prepared stronger were the drying of the ginger carried a little further. Probably, however, its solubility would diminish if the drying were completed, and of course the result would cease to be essence of green ginger.

\* Read at an evening meeting of the Pharmaceutical Society, April 4, 1883, and published in the Pharm. Jour. & Trans. † See Amer. Jour. Phar., 1878, p. 494.



## Editorial.

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### REVISION OF THE BRITISH PHARMACOPŒIA.

The chairman of the Pharmacopœia Committee of the General Medical Council of Great Britain has officially informed the British Pharmaceutical Society that it has been decided that a new edition of the Pharmacopœia shall be issued, and has invited the assistance of that body, together with that of such societies and persons as may be able to furnish useful information, with a view of rendering the work as complete and accurate as possible. The exact position of the Pharmaceutical Society and other kindred associations in this matter is not left undecided, and the extent of the "co-operation" may be judged from the following extract from the official letter, "the Committee invite, and will be happy to receive such suggestions as may be made to them by the above named authorities, and to give their suggestions their most attentive consideration."

No further doubt as to the present position of the Society can be entertained when we learn that last January, Professors Redwood, Bentley, and Attfield, were employed by the Medical Council as editors, at a joint salary of \$4000. It was not, however, until very lately that this fact came to light, and the announcement has provoked considerable discussion, not because there is the slightest question as to whether these gentlemen are not among the best that could have been chosen, but that they should have accepted the position when they were aware that the Society was struggling for official recognition on the revision committee.

The Council of the Pharmaceutical Society, naturally enough, holds to the opinion that after over forty years existence, during thirty of which it has been legally vested with the direction of pharmaceutical matters, that it should be in a prominent position in respect to pharmacopœial revision, and instead of being merely allowed to make "suggestions" should have some say in the direction of the work. In the revision of other European pharmacopœias the rights of pharmacists are recognized, and, as we all know, in the United States the majority of the Pharmacopœia

Committee is composed of pharmacists. That this is right in principle requires no argument, and that it works well in practice the last U. S. P. bears abundant evidence. A perfect pharmacopœia cannot be produced either by physicians or pharmacists alone. The doctor knows well what remedies he wants, but understands little of their preparation—a point on which the druggist is thoroughly informed, while, on the other hand, he is not particularly interested in therapeutical considerations.

A memorial setting forth these views has been prepared by the Pharmaceutical Council, and is to be presented to the Privy Council. It prays that an amendment be made to the Act now in the House of Commons to the effect that the Pharmacopœia Committee shall consist of six medical practitioners, nominated by the Medical Council, and five pharmaceutical chemists, four to be nominated by the Council of the Pharmaceutical Society, (one of the four to be resident in Scotland) and one by the Council of the Pharmaceutical Society of Ireland.

We do not exactly see how Canada and the colonies come in under this arrangement—perhaps the parent society thinks we are old enough to look after ourselves—but in any case we hope that the rights of pharmacists will be recognized, and the acknowledgment made that English druggists are at least as good as their European or transatlantic neighbours.

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### ELECTION OF COUNCIL.

The election of Council takes place on Wednesday, July 4th, and all voting papers must be mailed so as to be received by the Registrar by noon of that day.

The interest taken in the election this year is shown by the large number of nominations, which included the names of forty-one gentlemen, of whom eight declined, and five were ineligible on account of non-payment of fees up to the specified time. Thirty-eight stand for election, and afford a chance for a very equal representation of the province, as there are residents in every district.

The list of voters, in good standing on June 15, numbers 410, against 361 last term, 322 in 1879; 345 in 1877, and 298 in 1875.

Last year, 293 voting papers were returned, but twenty-four were rejected, either on account of the list not being signed by the voter, or that more than thirteen names were marked. In this election it will be well to bear these mistakes in mind so that votes may not be thrown away.

In order to aid in the attempt in making the representation uniform in the various parts of the country, we publish, as usual, a list of the nominees and the districts in which they reside.

OTTAWA DISTRICT.

J. F. Kellock, Perth. | H. F. McCarthy, Ottawa.

KINGSTON DISTRICT.

G. S. Hobart, Kingston. | N. C. Polson, Kingston.  
L. W. Yeomans, Belleville.

PETERBORO' DISTRICT.

E. Gregory, Lindsay. | A. Higginbotham, Lindsay.  
J. E. Kennedy, Cobourg. | R. Wilson, Cobourg.

YORK DISTRICT.

T. A. Hewitt, Thornhill. | W. S. Robinson, Yorkville.

TORONTO DISTRICT.

R. W. Elliot, Toronto. | H. Miller, Toronto.  
N. C. Love, Toronto. | H. J. Rose, Toronto.  
H. Sherris, Toronto.

SIMCOE DISTRICT.

G. Monkman, Barrie. | T. H. Robinson, Orillia.  
D. Oliphant, Collingwood. | W. B. Sanders, Stayner.

OWEN SOUND DISTRICT.

D. J. Bain, Paisley. | F. Jordan, Goderich.

WELLINGTON DISTRICT.

A. Harvey, Guelph. | A. B. Petrie, Guelph.  
R. H. Perry, Fergus. | G. J. Waugh, Stratford.  
L. H. Yeomans, Mount Forest.

HAMILTON DISTRICT.

A. Boyle, Hamilton. | R. Brierly, Hamilton.  
J. S. Mills, Brantford.

## NIAGARA DISTRICT.

W. W. Greenwood, St Catharines | J. B. Seymour, St. Catharines.

## OXFORD DISTRICT.

J. White, Woodstock.

## LONDON DISTRICT.

William Saunders, London.

## WESTERN DISTRICT.

J. E. D'Avignon, Windsor. | C. M. S. Thomas, Amherstburg.

G. A. Powell, Chatham. | W. H. Switzer, Dresden.

## MEETING OF ALUMNI ASSOCIATION.

The second meeting of the Alumni Association of the Ontario College of Pharmacy was held in the rooms of the College, on Friday evening, June 22nd. The chair was taken by Mr. J. H. Dickey, who expressed his pleasure at seeing so many graduates, as well as undergraduates, present. The former, although perhaps somewhat discouraging to admit, were in the minority, yet, as they had proved themselves workers, he had little doubt of their success. The first great step had been taken in founding an association which would afford a chance not only of bringing followers of the profession into closer union with each other, but also of discussing the popular subjects of the day, as well as the many other matters that are constantly presenting themselves before the observant chemist and druggist.

The rules, regulations, by-laws, etc., framed by the committee appointed at last meeting, were each severally read and discussed and with few amendments adopted, after which the following gentlemen were elected :

E. A. Smith, Toronto, President.  
 A. A. Campbell, Hamilton, 1st Vice-President.  
 S. Hollingworth, Toronto. 2nd " "  
 J. H. Dickey, Newtonville, Recording Secy.  
 M. Macpherson, Ottawa, Corresponding Secy.  
 F. E. Luke, Toronto, Treasurer.

## EXECUTIVE COUNCIL.

For one year, Robt. R. Martin and J. Snowball.  
 " two " A. B. Eadie and Frank May.  
 " three " J. H. Dickey and M. Macpherson.

The meeting was then adjourned, to meet again in October for regular work, when it is expected that a programme of subjects for

papers and discussion will be provided, and meetings held perhaps twice monthly.

In a future number we shall print the constitution and by-laws in full. In the meantime, any particulars respecting fees, etc., may be learned from the corresponding secretary.

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## Editorial Summary.

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THE imports of quinine into America from Europe, last year, were 794,495 ounces, against 408,851 the year previous. So much for free trade.

DESPITE all the uncertainty that has attended European and American experiments with coca, it is evidently destined to be largely used, especially as a general tonic.

PODOPHYLLOTOXIN, the active medicinal portion of podophyllin, isolated lately by a Russian chemist, has come into commerce in Europe, and is reported in active demand.

A SUBSTITUTE for castor oil is reported by Gehe & Co. It is obtained from the tambor tree, growing in San Salvador. It is said to be less disagreeable than castor oil and equally efficient.

IT is proposed to use liquified carbonic acid gas for the preparation of mineral waters. If appliances can be devised for the safe transfer and storage of this agent, it will be a boon to the country druggist.

AN examination of twelve samples of insect powder, by W. L. Howie, (*Pharm. Jour. and Trans.*), showed six to be genuine, four colored with chrome yellow, one with turmeric, and one with turmeric and chrome.

THE new antipyretic, *Kairine*, or methylhydrate of oxycholine, is said to be more certain and safe than any other substance of similar properties now in use. In doses of 30 centigrams the reduction in temperature is very rapid.

THE new remedy *Adonis vernalis* is beginning to be inquired for in Canada, but, as yet, there is no supply. Merck, of Darmstadt, has prepared a glucoside, called *Adonidine*, which has been tried as a substitute for digitaline, without having the disadvantage of being cumulative.

A NEW ergot remedy for hypodermic use, is reported from Europe. It consists of a mixture of ergotin and gelatine, melted and cast into cylinders. These may be conveniently carried in a vial, and when required for use, dissolved in a small quantity of water, by a gentle heat.

GEHE's circular states that large quantities of liverwort have been bought up at advanced prices for the United States market, but nothing definite could be learned as to its use. We believe the greater part of it is used for the manufacture of patent medicines—notably for making a so-called "kidney cure."

THE *Pharmaceutical Record* says that an article purporting to be Schering's carbolic acid, but said to have been damaged on the voyage, was offered for sale, and disposed of, but the purchaser found it to be crystallized sulphate of soda, containing enough carbolic acid to communicate the required odor.

DR. M. HAY, (*Pharm. Jour. and Trans.*) has been making an examination of *cannabis indica*, and, as a result, thinks that it contains several alkaloids, one of which he has isolated. It possesses toxic properties similar to strychnia, but it is a secondary alkaloid, reminding one of the thebaine of opium. Further experiments will be made on the other alkaloids.

A CASE of injury by carbolic acid occurred recently at Montreal. A young lady suffering from toothache applied to a druggist for some remedy, and carbolic acid was supplied. In attempting to put this into the cavity of the tooth some of it came in contact with the mouth, and, according to the Montreal papers, the patient was so badly burned that, for a time, her life was despaired of.

WE have recently had some letters from physicians who have experimented with nitrite of sodium, in place of nitrite of amyl, or nitroglycerin, in angina pectoris. The results have been satisfac-

tory, but the pure salt must be used. The dose may be about two grains. If the crude semi-fused salt, obtained directly from reduction of the nitrate be employed, the dose must be correspondingly larger.

The *Pharm. Jour. & Trans.* refers to a paper in the *Practitioner*, in which the writer recommends ordinary tap water in preference to distilled water, for the preparation of eye lotions. The lachrymal secretion contains about one per cent. of solids, and the eye is therefore unaccustomed to pure water. The addition of  $2\frac{1}{2}$  grains of chloride of sodium to the ounce of water is said to be an improvement.

IN a paper read before the Massachusetts Pharmaceutical Association, W. W. Bartlett gave his experience with disinfectants, and also a formula for one representing the chlor-alum type, which is stated to yield an excellent product. About two pounds of zinc are dissolved in 6 to 7 pounds of hydrochloric acid. Two and a half ounces, each, of alum, chloride of calcium, and chloride of sodium, are dissolved in water, and added to the zinc solution, the measure being brought to 80 wine pints with water. The product is then filtered.

PERCY WELLS, (*Pharm. Jour. and Trans.*), finds that the odor and quality of distilled waters may be much improved, and their tendency to decomposition obviated by putting with the oils in the still, or with the product damaged by age, enough permanganate of potash to give a faint pink color. Essential oils thus treated with permanganate water (from  $\frac{1}{2}$  to 1 grain per ounce of oil) and distilled, are much improved in odor.

THE manufacture of glucose in the United States is said to be almost at a standstill. The large profits at first realized stimulated new factories, and the result has been over production and low prices. Stearn's *New Idea* says that of the thirty factories in the States, representing over five and a quarter millions of dollars, invested capital, there are now less than half a dozen in operation, and they are kept running at a loss.

IN answer to a correspondent, who asks for some method for preparing permanganate of potash pills, we would say that all

organic excipients must be avoided, otherwise decomposition, and perhaps explosion may ensue. Common clay answers very well, or pipe clay moistened with water may be used, and the permanganate thoroughly incorporated. One grain to each pill is the ordinary quantity. The pills should be fresh, and may be dusted with powdered talc or French chalk.

IN the annual financial statement of the British Pharmaceutical Society we notice the item of £86 13s. 8d. for refreshments for the English examiners, while for the Scotch Board the bill only amounted to £5 14s. 4d.—possibly on account of the cheapness and potency of the national beverage. The expenses of examinations were, in all, about \$11,330; Journal, \$23,000; endowment of chairs, museum and library, \$5,000. The society carried forward a handsome balance of about \$6,500 for the year.

IN a paper recently read before the Glasgow Philosophical Society, Mr. E. C. C. Stanford, the author, incidentally remarked that the poor people in Donegal are now eating the *Fucus Vesiculosus* with Indian meal, and it is a common thing to see the Highland cattle browsing on this plant at low tide. While obese ladies take “anti-fat,” of which this sea-weed furnishes the active part, the unfortunate Irish peasant hopes by this diet to produce an opposite result. Joking apart, we have known of several instances in which the administration of *fucus vesiculosus* has produced an increase of weight—probably by aiding digestion.

EVERYBODY knows that there is considerable therapeutical difference between the rounded and amorphous grains of creta præparata, and the sharp crystalline particles of precipitated chalk. Very frequently one is substituted for the other in the treatment of diarrhoea, but of course this should never be done. The case is even worse with the adulterated article mentioned by Mr. Alcock, in the June number of the *Pharm. Jour. & Trans.* This gentleman analysed an unusually nice looking sample, and found it to consist of 67 per cent. of sulphate of calcium, the balance being carbonate. This would not prove a healing application to the inflamed membrane of the intestines, and it is said that when made into tooth powder, with soap, the usual frothing does not take place, and, altogether, a disagreeable result is obtained.



DR. B. H. PAUL has shown that the B.P. ether test for quinine cannot be relied on, as it fails to show the presence of even thirty per cent. of cinchonidia sulphate—the most frequent impurity. M. H. Byasson, (*Four. de Pharm.*) suggested a modification of the test, consisting in agitating 0.5 grams of the sample, with 6 c.c. of ether, and 2 c.c. of solution of ammonia. This, he claimed, would detect 3 to 4 per cent. of sulphate of cinchonine, 4 to 5 of sulphate of quinidine, and 5 to 6 per cent. of sulphate of cinchonidine. A. J. Cownley, (*Pharm. Jour. and Trans.*), finds that this will not hold good with regard to the latter salt, as it was found impossible to detect even an admixture of 20 per cent. of sulphate of cinchonidine.

A SOMEWHAT stringent Pharmacy Bill has passed the House Committee of the Massachusetts Legislature. After January, 1884, all pharmacists are to be examined by a Commission, the fees to be eight dollars, with \$10 additional for a diploma. Sales of drugs without license are to be punished by a fine of from \$100 to \$200 for each offence, and, on a second conviction, by fine and imprisonment for not more than one year. Graduates in medicine or pharmacy may carry on a druggist's business on paying a fee of three dollars. The commissioners are to have power to enter any pharmaceutical establishment to inspect "artificial drugs and compounds"—whatever that may mean—and to stop the sale of any that are found to be sophisticated. Sales after this warning are punishable by a fine of five times the amount above named.

A PHARMACEUTICAL reformer in Havana is advocating the reconstruction of the names of compounds on what he considers a more rational basis, so that the designation applied shall indicate the nature and composition of the substance. Thus *Blasescroconresnetema*, with two other words equally long, which we cannot have patience to spell, is to stand for a compound similar to the *Vinum Opii*, B.P.; but these terrible combinations of letters, if interpreted on the author's scientific principles, are almost equal to an abbreviated pharmacopœia, and could tell us all we want to know about the compound. The editors of *New Remedies* feel serious about this matter, and, like ourselves, are fearful lest the doctrines of this reformer should gain ground, and all of us, printers included, should go mad.

INACCURACIES in the alcohol tables published in the new U. S. P. are pointed out by Dr. Pile, in a paper in the *Am. Jour. Pharm.* for June. The strength of proof spirit given is that recognized in Great Britain, namely, sp. gr. '9198 at 60° F., and containing 49.24 per cent. by weight of alcohol, while the law of the United States regulating this matter declares that proof spirit shall be held to be "that alcoholic liquor which contains half its volume of alcohol of a specific gravity of '7939 at 60° F." According to this it would have a sp. gr. of '93353, and 100 parts by volume of such a spirit would consist of 50 measures of absolute alcohol and 53.71 parts of water; the difference in the sum of these figures, and the resulting 100 parts of proof being due to contraction. Again this contraction has not been borne in mind by the U. S. P. authorities in stating the strength of official alcohol, which is said to be composed of 94 per cent. by volume of ethyl alcohol and 6 per cent. of water, whereas the correct composition is 94 and 7.29 per cent. A similar mistake occurs in the stated composition of diluted alcohol.

THE method of making solution hypophosph. co., devised by A. Gibson, and previously noted in this journal, has been tried and slightly modified by J. Calvert, who read a paper on the subject at a meeting of the California Pharmaceutical Society. The liquor so prepared deposits, for a day or two, a little calcium sulphate, but is afterwards clear and permanent, mixing well with aqueous but not alcoholic solutions. The formula is as follows: Dissolve 11 ounces and 80 grains of calcium hypophosphite in 5 pints of water, nearly boiling; add  $1\frac{1}{2}$  ounces of oxalic acid, stir for a minute, and add 2 ounces and 260 grains of ferrous sulphate, 5 ounces and 120 grains of sodium sulphate, 1 ounce and 120 grains of magnesium sulphate. Agitate for two or three minutes, allow the mixture to cool, filter into a bottle marked 100 fluid ounces, wash the calcium oxalate and sulphate that remain in the filter, with water, until 100 ounces are obtained. All the salts should be in coarse powder. The solution contains  $1\frac{1}{2}$  grains of ferrous hypophosphite in each fluid drachm.

THE influence of suspended matter on the indications of the hydrometer was made the subject of a lecture by E. Davies, F.C.S., before the Liverpool Chemists' Association, at a recent meeting. Some authorities have held that floating matter in a liquid, whether

heavier or lighter, does not affect the specific gravity of the liquid, as shown by the hydrometer, but Mr. Davies took the ground that suspended matter does exert an appreciable influence, and the experiments made proved the position. Hence skim milk is denser than fresh, both by the hydrometer and specific gravity bottle. The fat globulés displace an equal bulk of the heavier milk, so that a smaller weight being contained in a given bulk; a greater bulk of the hydrometer must be immersed in new than in skim milk. An experiment with starch showed that  $2\frac{1}{2}$  per cent., in suspension, raised the specific gravity of water to 1.010. A small glass figure weighted so as to remain at the bottom of a vessel of water, rose to the surface when powdered glass was sprinkled into the water. Other experiments gave similar results.

ENGLISH pharmacists appear to have had a more than usually good time at the annual dinner and conversazione held during the last week in May. The dinner took place at Willis's Rooms, the company numbering about 220, among whom were the Lord Mayor of London, Sir F. Abel, President of the Society of Chemical Industry; Sir Joseph Fayrer, President of the Medical Society, Dr. A. Clark, President of the Clinical Society; Dr. T. Bridgewater, President Metropolitan Branch of the British Medical Association. Dr. Gervis, President of the Obstetrical Society; Dr. Walker, President of the Odontological Society; Dr. E. S. Thompson, President of the Harveian Society; Prof. Odling, President of the Institute of Chemistry; Dr. Farquharson, Master of the Society of Apothecaries, and other gentlemen eminent in the departments of chemical and medical science. The conversazione was held on the evening of the next day in the South Kensington Museum, and from all accounts was a very brilliant affair. Over 2,500 were present, the company being received in the Architectural Court by the President of the Pharmaceutical Society (Mr. Carteghe, Esq.) and his lady, with others occupying prominent positions in the organization.

Those particularly interested in the subject of the examination of extract of malt will find in the last number of the *American Journal of Pharmacy*, a very thorough paper, extending over nine pages, by J. F. C. Jungk, of Ohio, which cannot, however, be reproduced to advantage in the form of summary. The author

rightly attaches great importance to the diastasic value of the extract. Good extract should possess the following characteristics: Light in color, as dark preparations are partly burned, and contain neither diastase nor soluble albumen, and differ only from molasses in containing dextrine; Free acid should not be present in undue quantity; The proportion of water and solid matters should be within certain limits. Above all, the extract should contain as much diastase as possible. If, by reason of the employment of too high a temperature, this principle has been destroyed, the product differs little from honey or any other saccharine preparation. Finally, nitrogenous constituents should be in a soluble form. Some experiments showed that the influence of alcohol on diastasic action is not nearly so great as commonly believed, but that a much more powerful effect is exerted by free acid. The author examined about twenty commercial samples of extract, but but considers the publication of the names of the makers inadmissible and therefore does not give the results.

CANADIAN and American whiskies of the "forty rod" kind have, as their various vulgar names imply, an unusual potency. They effect the system with wonderful rapidity, not only producing intoxication of the wildest description, but leaving behind ill effects in far greater degree than are suffered on recovery from the use of purer intoxicants. This has been commonly ascribed to drugging, but there is no need of going so far for a cause, as the crude and unrectified spirit is in itself quite sufficient to account for the toxic effects. The opinion has been held by various physiologists that alcohols other than ethylic spirit, and occupying positions higher in the scale, give correspondingly more poisonous results. This has been lately confirmed by Drs. Ringer and Sainsbury, in the *Practitioner*, who have been making experiments on frogs, and find that each ascending group of  $\text{CH}_2$  produces a more powerful paralyzing effect on the heart. Thus ethyl,  $\text{C}_2\text{H}_5$ , by the addition of  $\text{CH}_2$  becomes propyl,  $\text{C}_3\text{H}_7$ , and this by another molecule becomes butyl,  $\text{C}_4\text{H}_9$ , which by a further addition becomes amyl  $\text{C}_5\text{H}_{11}$  of which fusel oil is the hydrate,  $\text{C}_5\text{H}_{11}\text{HO}$ . All these compounds, especially the latter, exist in unrectified spirit, or common whiskey, and if what these authors say be true, we need not seek far for the activity of country tavern drinks, either whiskey, brandy, rum, or

gin, which, as a general rule, all come from a common source—the alcohol barrel of the liquor mixer.

PROFESSOR WENZELL's suggestion to make phosphoric acid by the slow oxidation of phosphorus in moist air has been tested on the large scale by Professor Runyon, who presented to the California College of Pharmacy a paper giving the result of his experiments. The apparatus consisted of a stoneware pan, with a tightly fitting plaster of Paris cover, furnished with a thermometer. Sticks of phosphorus were placed on a vulcanite diaphragm, standing on supports, at the bottom of the pan, the sticks being put side by side, but resting in grooves, and not in contact, nor liable to touch if the apparatus was jarred. Water was then poured in until the sticks were about half submerged, and the cover was put on, and thus left for two or three days. On removing the cover the liquid was found to have increased in bulk, and a portion was removed so as to again expose the remainder of the phosphorus. This was again done until the phosphorus had been entirely oxidized. The attention required was very slight, and the process was complete in thirteen days. A great advantage of this method is that the arsenic with which phosphorus is contaminated can be removed with great ease by simply heating the acid to  $190^{\circ}\text{C}.$  when it will deposit as a brownish-black powder. This operation should be conducted in a fume chamber. The acid, purified from arsenic, is then diluted, filtered, and boiled with nitric acid in the usual manner adopted for converting it into the tribasic variety.

ABRUS PRECATORIUS, wild licorice, which furnishes the brilliant scarlet seeds, tipped with black, that every school-boy who has a sea-faring acquaintance knows well, is coming into notice as a remedy for ophthalmic diseases, as chronic granular conjunctivitis, and has given results that certainly encourage a more extended trial. The seeds are the part used, and of these an infusion is made, but there is some difference of opinion as to how strong this should be. From sixteen to thirty-two seeds to sixteen ounces of water gives about the range of strength. The seeds are soaked and softened and then powdered and macerated, the liquid being finally filtered. On bathing the diseased eyelids (three times a day) with this infusion, intense pain is produced, and in twenty-four hours a muco-purulent discharge appears, and an arti-

ficial ophthalmia is set up, with the effect of rapidly curing the granulations of conjunctivitis. This is after the principle of cauterizing an unhealthy sore in order to change its condition and promote healing. More information is required as to the nature and properties of this remedy before any more definite directions can be given as to its use. The wild licorice plant is found in tropical countries in all parts of the world, being quite abundant in Jamaica. It is generally called *jequirity*, and the root is sometimes used as licorice. The seeds are variously named jumble or prayer beads, crab's eyes, love peas, etc., and are generally about one-fifth of an inch long, of a brilliant vermilion color, with a black patch around the hilum.

A SAD case of poisoning by Paris Green occurred lately in this city, the victim being a Mrs. Pearcy, residing on Sumach Street. For some time back she had showed symptoms of insanity, and was watched to prevent her doing any harm. On the morning in question she gave the baby into the charge of her eldest girl, about eleven years of age, saying that she was going out to a neighboring butcher's shop. Instead of doing so, however, she went to a drug store and purchased half a pound of Paris green, asking the clerk what quantity would be sufficient to use on a quarter of an acre patch of potatoes, to kill bugs. On returning home she mixed about half of the Paris green and drank it, the girl being absent. When the daughter came home she noticed the green color upon her mother's lips, and accused her mother of taking something, but this she denied. The daughter sent for her father, who was at work, and he, upon arriving, sent for Dr. Ball. The doctor did all that was possible to save the woman's life, but the drug had by that time done its deadly work. The stomach pump was promptly used but it was found impossible to save her life, and she died about noon. When asked by Dr. Ball why she had taken the drug, she said that "those thoughts" were coming back to her, and she believed it was better than to go to the asylum. It appeared that she had heard her husband speak of sending her to that institution, which he had intended doing a few weeks ago, when she was mentally in a worse condition than lately. A few years ago she spent a time in the asylum. She leaves three children.

## Practical Formulæ.

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**PASTE FOR LABELS.**—Soak glue in strong vinegar, heat it to boiling, and add it to a quantity of fine flour, until it becomes rather thick. This paste adheres strongly to glass, etc., and may be kept, without spilling, in a wide-mouthed, glass-stoppered bottle. Should it become too thick, a small quantity may be removed and warmed, when it may be readily applied to paper.

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**CEMENT FOR GLASS.**—Dissolve 1 part of caoutchouc in 64 parts of chloroform, add 16 parts of finely powdered mastic and let the mixture stand, in the cold, until the mastic is dissolved. If more than the above quantity of caoutchouc is taken, the resulting cement will be more elastic. When using it, it should be applied, with a brush, to the broken surfaces.

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**INDELIBLE INK WITHOUT SILVER.**—Add caustic alkali to a saturated aqueous solution of cuprous chloride until no further precipitate forms; allow the precipitate to settle, draw off the supernatant liquor with a siphon, and dissolve the hydrated copper oxide in the smallest possible quantity of ammonia. It may be mixed with about 6 per cent. of gum dextrine for use. Before washing, pass a hot iron over the writing.

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**TO CLEAN BRASS SCALE-PANS.**—Pour sufficient ammonia in the pan to cover the bottom, and rub briskly until dry with a handful of dry pine sawdust. For very dirty pans take about a drachm of bichromate of potash, powder it in a mortar, mix it with two or three times its bulk of concentrated sulphuric acid, and add twice as much water. With this rub the pans (having a care for the fingers), rinse well, and finish with rotten stone.—Sterns' *New Idea*.

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**CEMENT FOR BOTTLE TOPS.**—Instead of cement it is better to use the finest velvet corks, well driven in, to prevent escape of

carbon disulphide. Where cement must be used, probably the following will be satisfactory :

Resin .....	3 parts.
Caustic soda .....	1 part.
Water .....	5 parts.

Make a solution and add :

Plaster of Paris .....	4 to 5 parts.
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Mix well and apply immediately.—*Druggists' Circular.*

**BLACK INK.**—The best formula for a good *black ink*, which writes *black at once*, and cannot be washed off, after having been allowed to dry, or after having been exposed to the ordinary daylight, is the following, first suggested by Mr. Isidore Furst, of New York :

Nigrosine .....	200 grains.
Bichromate of potassium.....	30 “
Gelatin .....	30 “
Water, enough to make.. ..	1 pint.

Dissolve the gelatin in one-half of the water, and the bichromate in the other half. Then, having poured the first solution into a dark, amber-colored bottle, add the second solution. It will keep indefinitely.

The ink should, if possible, be kept in an inkstand of such shape or color that the contents shall not be exposed to bright daylight. Nevertheless the indelibility of the ink is but slightly interfered with, if thus exposed.

We began to use this formula several years ago, and have used no other ink since then. It can also be used in the stylographic pen, but, for this purpose, it needs to be diluted, until the writing appears pale bluish-black. If this is done the gelatin will not clog the orifice of the pen.—*New Remedies.*

A SINGULAR effect of corrosive sublimate, first observed by Salkowski, has recently been confirmed by Prévost and Trutiger, of Geneva (*Lancet*, April 14, p. 640). They have found that it causes the lime to be removed from the bones to the extent of 2 to 4 or sometimes 8 to 10 per cent. and to be deposited in the cortical substance of the kidneys, so that the kidney appears as if petrified, while the bones, at least in the case of rabbits, become so altered that the epiphyses of the long bones are at length moveable on the shaft. This decalcification takes place to the greatest extent when the doses of the poison are such as to cause death in three or four days, but are too small to kill in twenty-four hours.—*Pharm. Jour. & Trans.*



## THE EXAMINATIONS.

The examinations, this session, have been held under the new regulation as to time, and about a month earlier than usual. By a resolution passed at the Council meeting in August last, we are enabled to lay the report before the President for approval, and thus make the result public before the Council meeting.

Forty-five candidates were in attendance at the examinations, which took place on June 19th and three succeeding days. The following is the list of successful candidates :

## HONORS.

W. E. Saunders, London.  
A. S. Goodeve, Guelph.  
J. Harrison, Hamilton.  
B. M. Johnston, Toronto.  
H. C. Neff, Chatham.  
W. V. Cook, Welland.  
M. Sanderson, Milton.  
E. J. Cole, Niagara Falls.  
R. R. Martin, Toronto.  
J. A. Marshall, Port Hope.  
H. Currie, Picton.  
E. M. Jewell, Bowmanville.

## PASS.

F. W. Flett, Toronto.  
G. N. Babcock, Ottawa.  
J. Little, Ottawa.  
A. Pulford, Stonewall, Man.  
A. E. Guy, Oshawa.  
S. R. Mackenzie, Toronto.  
T. W. Scott, Toronto.  
A. E. Kennedy, Toronto.  
J. W. Snowball, St. George.  
W. R. Foot, Parry Sound.  
D. A. Watson, Dundas.  
E. C. Wilson, London.  
J. D. Higinbotham, Guelph.  
W. A. Hager, Orangeville.  
H. E. Macartney, Thorold.  
H. G. Eakins, St. Thomas.

Mr. J. T. Pepper, of Hamilton, secured sufficient marks to place him high on the Honor list, but not having fulfilled the required term of service, the Examiners recommend that a diploma be granted at the expiration of the period.

## PRIZEMEN.

COLLEGE *First Prize* (General Proficiency)—W. E. Saunders, 109.4.  
" *Second Prize* " " —A. S. Goodeve, 106.4.  
ROSE *Gold Medal* (Materia Medica)—Max. Sanderson.  
SHUTTLEWORTH *Gold Medal* (Chemistry)—James Harrison.

The highest marks in the various subjects were taken as follows :

Chemistry—J. Harrison, 18.6 marks.  
Materia Medica—M. Sanderson, 18.2 marks.  
Pharmacy—A. S. Goodeve, 18.6 marks.  
Botany—J. Harrison, 19.6 marks.  
Prescriptions—W. E. Saunders, 19.3 marks.  
Dispensing—R. R. Martin, 19.0 marks.

# Druggists' Exchange.

This page is set aside for the special use of *bona fide* Members of the College and Subscribers of the JOURNAL, in order to provide a medium for FREE intercommunication on business matters or those of special personal interest.

Notices for insertion must be mailed so as to be received by the Editor (53 Front Street, East) not later than the 25th of each month.

## ARTICLES WANTED.

**TINCTURE PRESS;** second hand; good order; capacity, about 1 gallon. Address, Fead Bros., Cannington.

## ARTICLES FOR SALE.

**PILL MACHINE;** cuts 48 pills, double cutting surface; plate glass rolling slab; iron frame; nearly new. Price \$35. Address, X., 53 Front St. East, Toronto.

## BUSINESSES FOR SALE.

Dr. F. Walden wishes to dispose of his drug store and practice in Harriston, satisfactory reasons for selling.

J. A. Chase, who for the past twenty-five years has carried on business at Paris, is desirous of retiring, and offers for sale the trade, stock and fixtures; value about \$3,000. Further particulars can be obtained from Messrs. Winer & Co., Hamilton, or Messrs. Lyman Bros. & Co., Toronto.

## BUSINESS WANTED.

W. H. Scripture, 66 Murray Street, Toronto, would like to hear of a suitable opening in business.

## SITUATIONS VACANT.

**IMPROVER.**—J. R. Bond, of Tottenham, wants a young man who has had one or two years' experience.

## SITUATIONS WANTED.

**ASSISTANT.**—J. E. Tipper, 6 Bellevue Place, Toronto, age 28; nine years' experience in England and three in Canada; holds diploma of Pharmaceutical Society of Great Britain; good address; best references.

## SITUATIONS WANTED.—Contin'd.

**ASSISTANT.**—J. G. Hunter, 45 Peter St., Toronto, has served in the retail trade in England.

**ASSISTANT.**—W. Fairbairn, Albion Hotel, Toronto, has been in the drug business in England.

**ASSISTANT.**—Any druggist, wholesale or retail, requiring help or assistance, can see my advertisement in the May Journal, and I will at once reply to any inquiries. H. McPhail, 294 King Street West, Hamilton.

"Advertiser" desires re-engagement with Chemist & Druggist (wholesale or retail), has had seven years experience in England, five with a chemist and two with a surgeon as dispenser. Moderate wages. Address E. H. Wilson, care M. A. Crosby, Blenheim.

## BUSINESS NOTES.

G. W. Parsons, of Dundalk, has assigned in trust. The business is advertised for sale by tender, up to July 14th. If then undisposed of, it will be sold by auction.

Some months ago an action was entered in our courts, brought by the Starr Kidney Pad Co. against a St. Catharines druggist for the amount of a promissory note given for the price of a number of kidney pads. The agent who introduced these pads was successful in making very large sales to the druggists throughout the country. In this case we understand about \$800 worth were disposed of, and a druggist in an eastern province is said to have purchased over \$5,000 worth. The defence to this action was that the pads were not what they were represented to be. At the trial the defendant moved to dismiss the action on the legal ground that no discovery had been made, to which the plain-

tiffs answered that they were not bound to tell the defendant what the pads were made of, as that is a "trade secret." The motion was referred to a judge, and was argued at Osgoode hall on June 22nd, and judgment reserved.

A. R. Fraser has been admitted a partner of the firm of E. Hooper & Co., Toronto. Mr. Fraser served an apprenticeship of five years with this house, and has also acted in the capacity of assistant for a like period.

G. Gibbard has bought the business carried on by T. G. Whitfield, of Whitby. Mr. Whitfield is representing Messrs. Kenneth Campbell & Co., on the road.

R. A. Foster, of Picton, is reported closed out under a chattel mortgage. Parker & Butler, of Stirling, have had the misfortune of being sufferers by the large fire that occurred in that town.

## MARKET REPORT.

The incessant rains of the past month, following closely on a season of unusual dampness, have not rendered the business outlook any more bright; but, nevertheless, a fair amount of trade has been done, and it is hoped that the weather may yet improve before the crops suffer any more serious or general damage.

*Opium*.—The market has been without noticeable change. Stocks immediately available are not large, which has a tendency to maintain the price, but the new crop, due about September 1st, is said to be very abundant, and this prevents an advance. *Morphia* is slightly easier.

*Quinine* is in a most anomalous position. In face of rather a small demand, and large stocks of bark, the market is controlled by speculators, who have forced the price up. They are endeavouring to effect a combination of the large holders and makers; whether they can get the English, French, Swiss, German, Italian and American interests permanently reconciled seems improbable, but, meantime the combination holds the situation.

*Miscellaneous Drugs*.—Balsams are rather quiet. Balsam of fir is expected to be considerably lower. Citric acid, from causes noted in our last, is in very considerable demand. Cubebs are well controlled at the advance. Cantharides are firmer. Castor oil is in good supply at low rates. Glycerin is again firmer. Hops, and hop substitutes, are all flat, except gentian, which is scarce. Hellebore in first hands, is pretty much exhausted. Demand for insect power continues good. Newfoundland cod-liver oil, of undoubted quality, is extremely scarce, though samples adulterated

with hake and pale seal oils are now offered freely. Quicksilver and mercurials are advancing. In essential oils, lemon is rather weak, and cloves is lower, while peppermint is stronger, and sassafras advancing. Cape aloes continues firm and dear, owing to South African troubles. Arabics command full rates. Camphor has met with a good demand, prices being low. Assafoetida is decidedly higher, and gamboge quite firm. Shellac is selling within usual range as to quality. Canary and hemp seeds are slightly easier and cardamons show a disposition to advance.

*Paints and Oils.*—There has been a very good demand for linseed oil and white lead, and prices continue low. Paris green is becoming scarce, and may be expected to fluctuate considerably between now and July 25th. Spirits of turpentine appears to have touched bottom for the season, and is again advancing.

*Spices, Dye Woods, etc.,* offer no new features worthy of special remark.

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PETROLEUM SOAP.—L. Bastil, a French chemist, has obtained a patent for a petroleum soap in which equal proportions of animal or vegetable fats are used with petroleum. The fatty matter is melted, and a half per cent. of boracic acid is fused into it. A similar quantity of boracic acid is in like manner added to the mineral oil at the temperature of 60° Fahr. The chemist also dissolves a half per cent. of boracic acid in his alkaline solution. The acidified oils are mixed by gradually pouring the melted animal or vegetable fat into the mineral oil with constant stirring. The alkali containing the boracic acid is then added, still maintaining the agitation. The saponification is completed by further addition of as much ordinary alkaline solution as may be required, and finishing off in the usual manner.—*Chemist and Druggist.*

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WILLOW LEAVES IN AGUE.—The "Lancet" says that an Indian surgeon, Chetan Shah by name, has recently revived the use of willow leaves in intermittent fever. This is an old remedy, now almost forgotten in Europe, while the leaves of several species of willow are still largely prescribed by hakims of India and Afghanistan, especially in the form of a distillate. Among the lower classes of Cabul, and especially in women, quinine was found to irritate the bowels, while the juice of the fresh willow leaves largely diluted with water, rarely failed to cure intermittent fever. In pregnant women the willow leaf is almost always found preferable to quinine.—*Med. and Surg. Reporter.*

# Shuttleworth's Extracts.

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**STANDARD STRENGTH,  
BEST MATERIALS,  
CAREFUL PREPARATION,  
HOME MANUFACTURE.**

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## **SPECIALTIES:**

	LIST PRICE.
EXTRACT BAY for Bay Rum .....	\$4.00 per lb.
LIQ. OPII SEDATIVUS—uniform with Battley's	3.50 “
ELIXIR CALISAYA .....	9 00 per doz.
LIQ. CARBONIS DETERGENS .....	1.50 per lb.
GREEN SOAP—Sapo Viridis, true .....	
WITCH HAZEL—distilled.....	per doz. and bulk.

---

**COMPOUND EXTRACT OF SANDAL WOOD, \$2.50 list, per lb.,**

A stronger and more efficacious preparation than the Liqueur, and also more palatable. A specific for diseases for which Copaiba is used.

**ELIXIR APII CO.**—Celery Seed—A New Nerve Tonic—\$9.00 doz.

Highly recommended as a substitute for soothing syrups and other preparations of a like kind. Very easily administered.

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**Wholesale Agents in Toronto:**

**ELLIOT & CO.** | **LYMAN BROTHERS & CO.**

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**E. B. SHUTTLEWORTH, Manufacturing Chemist.**

# Lyman Brothers & Co.

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## NEW GOODS FOR THE MONTH.

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Sugar Lead, in Casks.	Ammonia Carb, in Casks.
Soft Soap, “	“ Mur. “
Verdigris, “	Soda Ash, “
Epsom Salts, in Barrels.	Iron Liquor, “
Copperas, “	Sulphur Sub., “
Sal. Soda, “	“ Roll, “
Alum, “	Whiting, in Barrels.
Sal. Nitre, “	Chalk, in Casks.
White Pepper, in Bales.	Coriander Seeds, in Bales.
Caraway Seeds, “	Solazzi Licorice, in Cases.
Pimento, “	Grasso “ “
Cassia, in Cases.	Brown Sugar Candy “
Cloves, in Bales.	Mace, “
Ginger, in Barrels.	Nutmegs, “
Cassia buds, in Cases.	Chillies, in Bales.

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Eno's Fruit Salt.

Steedman's Powders.

Brown's Chlorodyne.

Holloway's Ointment and Pills.

Murray's Magnesia.

Bishop's Citrate Magnesia.

# WHOLESALE PRICES CURRENT, -JULY, 1883.

Drugs, Medicines, &c.		\$ c.	\$ c.	Drugs, Medicines, &c.—Contd.		\$ c.	\$ c.
Acid, Acetic, fort . . . . .	per lb	0 12	0 14	Gum Arabic Sorts, powdered . .		0 28	0 40
Benzoic, pure . . . . .		0 15	0 30	Assafetida . . . . .		0 20	0 25
Carbolic, cryst., med . . . .		1 25	1 50	Benzoin . . . . .		0 50	0 80
" " com . . . . .		0	0 50	Catechu . . . . .		0 12	0 15
Citric . . . . .		0 80	1 00	" powdered . . . . .		0 20	0 25
Gallic . . . . .		1 60	1 80	Gamboge . . . . .		1 00	1 25
Muriatic . . . . .		0 03	0 06	Gusiacum . . . . .		0 65	1 00
Nitric . . . . .		0 10	0 15	Myrrh . . . . .		0 45	0 85
Oxalic . . . . .		0 18	0 19	Sang Dracon . . . . .		0 15	0 45
Gallicylic . . . . .		2 40	2 00	Scammony, powdered . . . .		4 90	5 50
Sulphuric . . . . .		0 02	0 05	" Virg. . . . .		12 50	14 00
Tannic . . . . .		1 25	1 40	Shellac, Orange . . . . .		0 35	0 45
Tartaric, pulv . . . . .		0 70	0 75	Shellac, liver . . . . .		0 33	0 38
Ammon, carb. . . . .		0 21	0 24	Storax . . . . .		0 65	0 50
Bromide . . . . .		0 75	0 90	Tragacanth, flake . . . . .		0 65	1 35
Iodide . . . . .		4 00	5 00	" common . . . . .		0 25	0 65
Liquor, 88o . . . . .		0 20	0 22	Galls . . . . .		0 20	0 25
Muriate . . . . .		0 14	0 15	Gelatine, Cox's 6d. . . . .		1 20	1 25
Ether, Nitrous . . . . .		0 27	0 45	" French . . . . .		0 50	0 80
Sulphuric . . . . .		0 50	0 60	Glycerine, common crude . . .		0 25	0 28
Antim. Nig. pulv . . . . .		0 15	0 17	" 30o . . . . .		0 35	0 38
Tart . . . . .		0 55	0 60	Prices . . . . .		0 90	0 00
Alcohol, 95 per ct., bbl . . . .	Cash	2 75	3 00	Honey, Canada, best . . . . .		0 22	0 25
Arrowroot, Jamaica . . . . .		0 14	0 22	Iron, Carb. Precip. . . . .		0 16	0 20
Bermuda . . . . .		0 45	0 65	Citrate Ammon. . . . .		0 95	1 00
Alum . . . . .		0 02	0 03	" & Quinine, oz. . . . .		0 45	1 10
Balsam, Canada . . . . .		0 45	0 50	" & Strychine . . . . .		0 18	0 20
Copaiba . . . . .		0 90	1 10	Perchloride Solution . . . .		0 16	0 20
Tolu . . . . .		1 00	1 10	Sulphate, pure . . . . .		0 06	0 10
Bark, Bayberry, pulv. . . . .		0 18	0 20	Iodine, commercial . . . . .		2 25	2 50
Canella . . . . .		0 12	0 14	Resublimed . . . . .		2 75	3 00
" pulv. . . . .		0 20	0 22	Jalapin . . . . .	oz	0 75	1 50
Peruvian, yel. pulv. . . . .		0 25	0 50	Kreosote . . . . .	lbs	0 75	3 00
" red . . . . .		1 60	2 40	Leaves, Buchu . . . . .		0 27	0 30
Prickly Ash . . . . .		0 30	0 40	Belladonna . . . . .		0 30	0 33
Slippery Elm, grd. bulk . . . .		0 18	0 25	Foxglove . . . . .		0 27	0 38
" flour, packets . . . . .		0 28	0 32	Henbane . . . . .		0 25	0 25
Sassafras . . . . .		0 12	0 16	Horehound . . . . .		0 15	0 25
Wild Cherry . . . . .		0 10	0 12	Lobelia . . . . .		0 20	0 25
Berries, Cubebs, ground . . . .		0 95	1 40	" pulv. . . . .		0 40	0 45
Juniper . . . . .		0 07	0 10	Senna, Alex . . . . .		0 23	0 25
Beans, Tonquin . . . . .		1 40	2 75	" E. I. . . . .		0 10	0 14
Vanilla . . . . .		8 50	10 50	" Tinneville . . . . .		0 13	0 25
Bismuth, Trisnit. . . . .		2 50	2 60	Uva Ursi . . . . .		0 15	0 17
Carb. . . . .		2 60	2 70	Lime, Chloride . . . . .		0 02	0 05
Liquor . . . . .		0 35	0 55	Lime, Hypophosphite . . . . .		1 90	2 25
Storax, refined . . . . .		0 17	0 20	Sulphite . . . . .		0 10	0 11
Camphor, American . . . . .		0 35	0 37	Lead, Acetate . . . . .		0 13	0 17
English . . . . .		0 48	0 50	" Brown . . . . .		0 09	0 10
Cantharides . . . . .		1 50	1 60	Leptandrin . . . . .	oz.	0 60	0 75
" Powdered . . . . .		1 61	1 75	Lye, Concentrated . . . . .	doz.	8 95	1 25
Chiretta . . . . .		0 30	0 40	Liquorice, Solazzi . . . . .	lb.	0 50	0 55
Chloroform. . . . .		1 15	1 75	Martucci . . . . .		0 35	0 37
" D. & F . . . . .		1 90	2 00	Other brands . . . . .		0 14	0 35
" German . . . . .		0 60	0 70	Magnesia, Carb. . . . .	1 oz.	0 20	0 25
Chloral hydrate . . . . .		1 35	1 60	" 4 oz. . . . .		0 18	0 22
Chinonine, Muriate . . . . .		0 41	0 48	Calcined . . . . .	lb.	0 60	0 70
" Sulphate . . . . .		0 34	0 42	Citrate . . . . .	gran.	0 40	0 75
Chinonidia, Su'phate . . . . .		1 00	1 20	Mercury . . . . .	lb.	0 55	0 65
Cochineal, S. G. . . . .		0 40	0 50	Ammoniated . . . . .		1 25	1 30
" Black . . . . .		0 45	0 50	Bichlor . . . . .		0 80	0 90
Colloidion . . . . .		0 75	0 90	Iminodide . . . . .		3 60	4 10
Cuttle-Fish Bone . . . . .		0 35	0 40	Chloride . . . . .		0 90	1 10
Ergot . . . . .		0 60	0 80	C. Chalk . . . . .		0 40	0 70
Extract Belladonna . . . . .		3 10	3 00	Nit. Oxyd . . . . .		1 10	1 30
Colocynth, Co. . . . .		1 25	1 75	Morphia Acet . . . . .	oz	2 60	2 95
Gentian . . . . .		0 50	0 60	Mur. . . . .		2 60	2 90
Hemlock, Ang . . . . .		1 00	1 05	Sulph. . . . .		2 75	2 90
Henbane . . . . .		3 00	3 50	Musk, pure grain . . . . .	oz	54 00	.....
Jalap . . . . .		2 50	5 00	" Canton . . . . .		0 60	0 70
Mandrake . . . . .		1 75	2 00	Moss, Irish . . . . .		0 10	0 15
Nux Vom. . . . .	oz	0 20	0 30	Oil, Almonds, sweet . . . . .	lb.	0 60	0 65
Opium . . . . .	oz	0 90	0 00	" bitter . . . . .		12 00	13 00
Rhubarb . . . . .	lb	4 00	5 00	Aniseed . . . . .		3 00	4 00
Sarsap. Hon. Co. . . . .		1 00	1 20	Bergamot, super . . . . .		3 60	4 00
" Jam. Co. . . . .		4 00	4 50	Caraway . . . . .		3 20	3 50
Taraxacum, Ang . . . . .		0 65	0 80	Cassia . . . . .		1 40	1 75
Flowers, Arnica . . . . .		0 20	0 25	Castor, E. I . . . . .		0 10	0 12
Chamomile . . . . .		0 50	0 50	Cedar . . . . .		0 50	0 80
Fuller's Earth . . . . .		0 03	0 04	Citronella . . . . .		1 25	1 50
Gum, Aloes, Barb . . . . .		0 35	0 70	Cloves, Ang . . . . .		2 50	3 00
" Cape . . . . .		0 20	0 25	Cod Liver, Nor., Imp. Gal . .		3 50	4 20
" powdered . . . . .		0 23	0 25	" N. F . . . . .		2 25	2 50
" Socot. . . . .		0 54	0 75	Croton . . . . .	lb	1 85	2 00
" pulv . . . . .		0 62	0 80	Hemlock . . . . .		0 80	0 90
Arabic. Select . . . . .		0 35	0 45	Juniper Wood . . . . .		0 65	0 00
" powdered . . . . .		0 45	0 55	Berries . . . . .		0 00	2 00
" sorts . . . . .		0 20	0 22	Lavand, Ang. . . . .	oz.	4 50	5 55

# WHOLESALE PRICES CURRENT.—JULY, 1883.

## DRUGS, MEDICINES, &c.—Cont'd

	\$ c.	\$ c.
Oil, Lavand, Exotic.....lb.	1 40	3 50
Lemon.....	3 30	4 00
Orange.....	3 25	3 20
Neroli, super.....oz.	3 50	5 50
Origanum.....lb.	0 65	0 85
Peppermint Ang.....	13 00	15 00
" Amer.....	3 75	4 75
Rose, Virgin.....oz.	13 00	14 00
" good.....	7 00	8 00
Santal Arg.....lb.	9 00	9 75
Sassafras.....	1 00	1 20
Verbena.....	1 75	2 00
Wintergreen.....	4 00	4 00
Wormwood, pure.....	7 01	9 00
Ointment, blue.....	0 50	0 60
Opium, Turkey.....	4 25	4 50
" pulv.....	6 25	7 00
Orange Peel, opt.....lb.	0 35	0 40
" good.....	0 16	0 25
Pill, Blue, Mass.....	0 55	0 75
Potas., Bi-chrom.....	0 14	0 16
" Bi-tart.....	0 38	0 40
Bromide.....	0 45	0 55
Cyanide.....	0 52	0 55
Carbonate.....	0 15	0 17
Chlorate.....	0 22	0 23
Iodide.....	2 00	2 25
Nitrate.....	8 75	11 00
Sulphuret.....	0 25	0 35
Pepsin, Boudault's.....oz.	1 20	1 20
" Morson's.....oz.	0 90	1 00
Phosphorus.....	0 95	1 05
Podophyllin.....	0 45	0 50
Quinine, Howard's.....	2 20	2 40
" German.....	2 00	2 05
Root, Colombo.....lb.	0 30	0 35
Curcuma, grd.....	0 11	0 15
Elecampane.....	0 16	0 17
Gentian.....	0 15	0 20
" pulv.....	0 18	0 20
Hellebore, pulv.....	0 15	0 18
Ipecac.....	1 75	0 00
Jalap, Vera Cruz.....	0 38	0 45
Liquorice, select.....	0 13	0 15
" powdered.....	0 13	0 15
Mandrake.....	0 12	0 20
Orris.....	0 18	0 25
Rhubarb, Trimmed.....	2 25	2 40
" E. I.....	0 85	0 95
" pulv.....	1 00	1 20
Sarsap., Hond.....	0 50	0 65
" Jam.....	0 60	0 00
Squills.....	0 16	0 20
Senega.....	0 95	1 00
Spigelia.....	0 55	0 65
Sal., Epsom.....l.	0 01	0 02
Rochelle.....	0 35	0 38
Soda.....	1 25	2 50
Seed, Anise.....	0 12	0 15
Canary.....	6 50	7 00
Cardamon.....	2 40	2 75
Fenugreek, g'd.....	0 05	0 09
Flax, Ont. Cash 100 lbs.....	3 25	0 00
" Imported.....	3 00	3 00
Hemp.....	0 06	0 06
Mustard, white.....	0 10	0 15
Saffron, American.....	0 60	0 75
" Spanish.....	18 00	0 00
Santonine.....	5 00	5 75
Sago.....	0 08	0 09
Silver, Nitrate.....Cash	13 20	14 00
Soap, Castile, mottled.....	0 08	0 11
Soda, Ash.....	0 02	0 05
Bicarb. Newcastle. Keg.....	3 00	3 60
" Howard's.....lb.	0 16	0 16
Caustic.....	2 50	5 00
Spirits Ammon., arom.....	0 40	0 45
Strychnine, Crystals.....oz.	1 65	2 00
Sulphur, Precip.....lb.	0 15	0 16
" Sublimed.....	0 03	0 03
Roll.....	0 02	0 03
Verdigris.....	0 30	0 55
Wax, White, pure.....	0 65	0 75
Zinc, Chloride.....oz.	0 10	0 15
" Sulphate, pure.....lb.	0 09	0 12
" common.....	0 06	0 10

## DYESTUFFS.

Anatto.....	0 35 @ 0 60
Aniline, Magenta, cryst.....	2 15 2 50

## DYESTUFFS—Continued.

Argols, ground.....	0 15	0 33
Blue Vitriol, pure.....	0 06	0 08
Camwood.....	0 05	0 06
Copperas, Green.....	0 01	0 01
Cudbear.....	0 15	0 00
Fustic, Cuban.....	0 02	0 01
Indigo, Extract.....	0 75	0 00
Japonica.....	0 25	0 08
Lacdy, powdered.....	0 33	0 00
Logwood, Camp.....	0 02	0 00
Extract.....	0 09	0 00
" 1 lb. bxs.....	0 13	0 00
" 1 lb. ".....	0 14	0 00
Madder, best Dutch.....	0 10	0 00
Quercitron.....	0 03	0 00
Sumac.....	0 00	0 00
Tin, Muriate.....	0 01	0 00
Redwood.....	0 01	0 00
SPICES.....		
Allspice.....	0 20	0 00
Cassia.....	0 20	0 00
Cloves.....	0 40	0 00
Cayenne.....	0 33	0 00
Ginger, E. I.....	0 12	0 00
Jam.....	0 27	0 00
Mace.....	0 81	0 00
Mustard, com.....	0 20	0 00
Nutmegs.....	0 95	0 00
Pepper, Black.....	0 18	0 00
White.....	0 30	0 00
PAINTS, DRY.....		
Black, Lamp, com.....	0 08	0 00
" refined.....	0 18	0 00
Blue, Celestial.....	0 00	0 00
" Prussian.....	0 65	0 00
Brown, Vandyke.....	0 05	0 00
Chalk, White.....	0 01	0 00
Green, Brunswick.....	0 07	0 00
Chrome.....	0 16	0 00
Paris.....	0 22	0 00
Magnesia.....	0 15	0 00
Litharge.....	0 07	0 00
Red Lead.....	0 05	0 00
Venetian.....	0 02	0 00
Sienna, B. & G.....	0 07	0 00
Umber.....	0 07	0 00
Vermillion, English.....	0 90	0 00
American.....	0 23	0 00
Whiting.....100 bs	0 75	0 00
White Lead, dry, gen.....lb.	3 06	7 00
" No. 1.....	0 05	0 00
Yellow Chrome.....	0 09	0 00
" Ochre.....	0 02	0 00
Zinc White, Star.....	0 06	0 00
COLORS, IN OIL.....		
Blue Paint.....	0 12	0 00
Fire Proof Paint.....	0 06	0 00
Green, Paris.....	0 25	0 00
Red, Venetian.....	0 07	0 00
Patent Dryers, 1 lb tins.....	0 10	0 00
Putty.....	0 03	0 00
Yellow Ochre.....	0 08	0 00
White Lead, gen. 25 lb. tins.....	1 80	2 00
" No. 1.....	1 60	1 00
" No. 2, less 7 pc.....	1 40	1 00
" No. 3.....	1 20	1 00
White Zinc, Snow.....	2 25	2 00
NAVAL STORES.....		
Black Pitch.....	3 50	4 00
Rosin, Strained.....lb	3 60	4 00
Clear, pale.....	5 50	6 00
Spirits Turpentine Imp. Gall.....	0 90	1 00
Tar Wood.....	4 80	5 00
OILS.....		
Cod Imp. Gall.....	0 75	0 00
Lard, extra.....	1 10	1 00
" No. 1.....	1 05	1 00
Linseed, Raw per gals.....	0 68	0 75
" Boiled.....	0 72	0 75
Neats-foot.....	1 30	1 40
Olive, Common, Imp. Gall.....	1 05	1 40
Salad.....	2 11	2 20
" Pints, cases.....	4 00	4 20
" Quarts.....	3 25	3 50
Seal Oil, Pale, Imp. Gal.....	0 60	0 85
Union Salad.....	1 20	1 20
Sperm, genuine.....	2 40	2 50



# LIST OF DRUGGISTS

*Registered and entitled to keep open shop as PHARMACEUTICAL CHEMISTS, and who are alone lawfully entitled to sell Wines and Liquors for medicinal purposes under the provisions of the Dominion and Provincial enactments, having paid the Renewal Registration fee, as required by Sec. 20 of the Act respecting Pharmacy. Published in accordance with Sec 15 of said Act.*

**GEORGE HODGETTS,**

TORONTO, 15th June, 1883.

REGISTRAR.

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|--------------------------------|--|
| Allison, C. B., Picton.        | Cameron, Allan, Owen Sound.                |
| Atkinson, W. T., Oshawa.       | Cameron, Danl. A., Owen Sound.             |
| Ault, Edward, Iroquois.        | Carman, Fred. B., Morrisburg.              |
| Aylesworth, James, Tamworth.   | Carpenter, E. R., Collingwood.             |
| Bain, Donald J., Paisley.      | Case, Edward W., Picton.                   |
| Ball, John, Hanover.           | Case, H. S., Hamilton.                     |
| Banks, John H., Weston.        | Casselman, C. T., Chesterville.            |
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| Barker, W. T., Trenton.        | Chaffey, S. B., Hastings.                  |
| Barr, John A., Hamilton.       | Chapman, Saml., Hamilton.                  |
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| Bond, J. R., Tottenham.        | Combe, James H., Clinton.                  |
| Booth, D. B., Odessa.          | Coombs, Joseph, Smiths Falls.              |
| Borland, C. B., Orono.         | Coombs, John S., Perth.                    |
| Bosworth, N. A., Stratford.    | Corbett, W. J., Creemore.                  |
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| Bow, William, West Winchester. | Crookshank, Jas. S., Blenheim.             |
| Bower, Anson P., Perth.        | Crookshank, John, Blenheim.                |
| Bower, Joshua, Perth.          | Cull, J. Walker, Mitchell.                 |
| Boyer, John, Colborne.         | Cumming, George, Rosemont.                 |
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| Britton, Charles, Lindsay.     | D'Avignon, J. E., Windsor.                 |
| Brodie, Jas. A., Toronto.      | Dawes, John, Brooklyn.                     |
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